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ABSTRACT

This is a study of the faculty of a small college under conditions of planned change. It attempts to establish the role of the faculty in initiating changes in an assessment of an hypothesis regrading the conservative role of such bodies. Following some developments in organizational theory regarding processes of organization, faculty differentiation was examined. It was expected that faculty whose careers are closely associated with the employing institution would be less able to sense extra-organizational pressures for change than those with strong extra-organizational professional ties. Further, among faculty who recognize the need for change, those with local career orientations would display less evidence of initiating or collaborating with attempts at planned change. It was also hypothesized that some faculty would display an active role associated with ideological concerns regarding organizational purposes of such a college. A survey of faculty indicated that the first hypothesis regarding their conservative nature was not sustained while the hypothesis predicting the positive relationship between professionalization and receptiveness to change and between awareness of external pressures and receptiveness were on balance confirmed. The prediction that those with local career orientations would be less aware of pressures and, less likely to support planned change was supported. Appendixes include related project materials. (Author/MJM)

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PLANNED CHANGE IN RESPONSE TO EXTERNAL PRESSURE
A Study of Facilitation and Resistance in the Faculty of a Small Independent College with a Traditional Emphasis on Engineering and Science

July 1972

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

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ABSTRACT

This is a study of the faculty of a small college under conditions of planned change. It attempts, to estabish the role of the faculty in initiating changes, in an assessment of any hypothesis regarding the conservative role of such bodies. Following some developments in organizational theory regarding processes of organization, faculty differentiation was examined. It was expected that faculty whose careers are closely associated with the employing institution would be less able to sense extra-organizational pressures for change than those with strong extra-organizational professional ties. Further, among faculty who recognize the need for change, those with local career orientations would display less evidence of initiating or collaborating with attempts at planned change. It was also hypothesized that some faculty would display an active role associated with ideological concerns regarding organizational purposes of such a college.

A survey of faculty indicated that: 1) The first hypothesis as to their conservative nature was not sustained. 2) The hypotheses predicting the positive relationship between professionalization and receptiveness to change and between awareness of external pressures and receptiveness were on balance confirmed. The prediction that those with local career orientations would be less aware of pressures and, less likely to support planned change was supported. Few faculty in the study could be characterized as having strong ideological concerns regarding organizational purposes and were not treated in the analysis.

August 4, 1972

ERRATA

Abstract, line 2 - Delete comma after "attempts"

Abstract, line 2 - Read "establish"

Abstract, line 3 - Read "an hypothesis"

page 7, line 7 - Read "as a community"

page 8, line 19 - Read "of communication"

page 8, line 33 - Read "Institutionalization of the Innovative Process"

page 10, line 10 - Read "receptive"

page 41, line 8 - Read "84 percent"

page 43, Table 17 - Title should read "Influence or Say"

page 45, line 34 - Read "consistent"

page 46, line 11 - A question mark should be placed at the end

page 46, line 45 - Read "effects"

page 49, line 1 - Read "effect"

page 49, line 18 - Read "pessimistic"

page 53, line 1 - Delete "and"

page 62, line 19 - Read "....subject organization."[1]

page 62, line 23 - Read "....present study."[2]

page 62, line 32 - Read "....commercial profit."[3]

page 62, line 33 - Read "[1]Jerold Hage and Michael Aiken"

page 62, line 35 - Read "[2]Jerold Hage...."

page 62, line 38 - Read "[3]Hage and Aiken...."

page 63, line 9 - Read "....toward change."[4]

page 63, line 24 - Read "....external environments."[5]

page 63, line 27 - Read "survival,"

page 63, line 29 - Read "....as to performance."[6]

page 63, line 32 - Read "[4]Hage and Aiken...."

page 63, line 33 - Read "[5]It should be...."

page 63, line 40 - Read "[6]Harold L. Wilensky...."

page 92, line 2 - Read "obliged to"

page 105, line 22 - Read "with a "0.")"

page 109, line 5 - Read "020- C.I.T."

page 110, line 43 - Read "1-4- N.E."

page 113, line 2 - Read "Columns 46-67"

page 113, line 26 - Read "1-4- N.E."

page 115, line 1 - Insert "68" in first column"

page 125, line 3 - Read "Columns 48-55"

page 138, line 39 - Read "Q. 8a"

page 166, line 24 - Read "1-4- N.E."

page 167, line 31 - Read "1-4- N.E."

page 178, line 15 - Read "other"

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The study staff would like to thank the faculty and administration of "Boynton Tech" for their co-operation in this research effort. The guarantee of anonymity prevents identification of those who gave their time in frank response to our questions. They, however, know who they are and we sincerely thank them.

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Chapter I: The Problem

Introduction

Large scale organizations are a fact of life in modern society. With the single exception of the family every institutional order in modern society realizes much of its social product through the mechanism of large scale, bureaucratized collectivities. Whether we are speaking of the economy, the polity, the educational system or the religious system we are very shortly drawn to a consideration of the characteristics of such organizations. It may very well be that our concept of social modernism is inextricably bound to the proliferation of these outsized collectivities; that we define social modernism in terms of the extent to which institutional functions are realized in the context of large scale organizations.

If large scale organizations are a defining characteristic of modern life they are not without their difficulties for modern man. True enough they "get the job done" whether the job we are talking about is producing steel, administering affairs of state, or schooling children and young adults; but we are often troubled by the manner in which the job is done. It often appears that our organizational creations accomplish their purposes at some cost to values we endorse and in some cases even revere. The industrial bureaucracy which produces its goods at a high level of cost efficiency often does so at the expense of the sense of craftsmanship which in the past made less efficient production more meaningful to the individual worker. It is true that modern government without bureaucracy is functionally impossible. Yet we often feel that such bureaucracies in their rigid adherence to procedural dicta are less than fully responsive to the collective will of the people they presumably serve. No major institution of higher learning could sustain itself without the advantages of bureaucratic organization. Nevertheless, both faculty and students often feel that educational values are sacrificed to the requisites of organizational administration. Few people who have been a part of any college or university (even the smallest and most "personalized" of these) can be immune to the troubling thought that perhaps they are processing (or being processed) rather than educating (or being educated). And in a society which is presumably committed to a pragmatic progressivism in response to changing social and economic conditions it often seems that our institutions of higher learning are caught in a quagmire of their own organizational conservatism.

All in all we are troubled by what seems to be a paradox of social modernism. We have reaped very real benefits from the operations of large-scale formal organizations. We can no longer envisage a social life for ourselves without these organizations. Yet these same organizations often seem to stand in opposition to our desire for maximum human serviceability in social institutions. They appear at once to be both harbinger of and barrier to progress in human society.

Our research as reported here is inspired by this paradox and by the consequent dilemma it poses for modern man. If we are to maximize the human serviceability of our institutions, we will undoubtedly have to rediscover those sources of creativity and flexibility within large scale organizations which in the past enabled such institutions to master the functional requisites of an emerging social modernism. If now our progress seems slowed by these very social forms, we will have to find sources of renewal within these forms. If not, these agents of our past success will atrophy; whatever positive contributions they continue to make will diminish and we shall be confronted with the possibility of social paralysis brought on by the widespread cynicism and alienation which such a situation must breed.

In the spirit of this concern we have begun to study an organization in the throes of an attempted renewal. If the oft-stated nostrum that education holds the key to our future has validity, then there is a special utility in this research context regarding the study of attempted organizational renewal of an institution of higher learning.

Specific Educational Issues

Following World War II, the vocational model of educational purpose was without doubt the dominant framework governing the educational choices of young Americans. An education has been long considered a necessary precondition for economic success, for getting a good job. If one aspired to more than a modicum of economic success, one was obliged to continue in school beyond the margin of the average education. If high school education comprised the margin in the post-war period, a college degree became identified with successful prospects for a substantial component of the U.S. population. To a great extent the vocational model of educational choice is still operative in the United States. However, its dominance no longer goes unchallenged. There are many among the young who no longer accept the quest for personal success - defined in economic or vocational terms - as reason enough for the pursuit of higher learning.

Some undergraduate education is of course, explicitly vocational in that it provides professional or pre-professional training. It is assumed by students and faculty alike that those who successfully complete their work in these curricula will enter the economy in jobs which make use of their highly specific training. Most prominent among these undergraduate training programs are those in education (teacher training) and engineering. Quite obviously such programs as these assume a steady or even expanding demand in the society-at-large for the professional capacities which they are in the business of developing. Since World War II this assumption has been more than borne out, as the demand for personnel in such professions has expanded. However, it now seems that the assumption of steady demand in areas such as these has been confounded as a result of economic and demographis shifts in American society. As a result of these circumstances the highly specialized undergraduate vocational (or professional) programs are now coming to face probable variations in demand

and the possible prospect of preparing people for a diminishing set of opportunities.

Our research begins to examine the attempt of an important institution of higher learning to re-define its educational purpose in response to those social forces and circumstances which have challenged the dominance of the vocational model of educational purpose and called its basic tenets into question.

Boynton Tech, located in a medium-sized metropolitan area in the Eastern United States is an institution long committed to excellence in technical - and in particular - engineering education. Over the years it has functioned quite well in terms of the vocational model of educational purposes. Its graduates have entered the technical professions and have acquitted themselves considerable success. Today Boynton Tech is at another crossroads in its history. Like many similar institutions of higher learning, this college exists in a situation where the model of educational purpose which has sustained its major function is being called into question. The leadership of the school hopes to redeploy its educational resources in a manner which will make the undergarduate experience at Boynton preparatory to an open future - a future in which technology will no doubt play an essential part - but a future as yet undefined. In short a new program is being developed at Boynton which seeks to broaden the base of technological education - to move beyond the vocational model - to humanize - as it were, the technological professions. A characterization of the Boynton Plan is presented in Appendix D.

The principal investigators are not technologists. Therefore they have no specific stake in the success or the failure of the new Boynton program (except as we all have a stake in those programs which seek to better prepare men and women to control their destiny). The principal investigators in this research believe that the Boynton Tech program represents a natural experiment - a test of modern man's ability to renew his organizational appendages - to find in his established social forms the sources of flexibility so necessary to meet the challenges of our changing society. Boynton Tech is representative of a class of educational institutions directly facing demands for change, demands for maximizing their serviceability. Boynton is also a formal organization and as such we must recognize that the intentions of its leadership must go through a translation process before they become policy. It is this translation process we are hoping to examine. Will the translation of intention into policy be successful or will it fail? What are the organizational sources of success or failure? These are the basic analytic questions we believe will be highly instructive to those interested in educational reform, as well as to those who recognize the paradox inherent in modern man's functional reliance upon large-scale formal organizations. At the most basic level we hope through our examination of this attempted renewal to begin to

find a way out of our contemporary organizational dilemma. We hope to identify those sources of renewal which will defeat organizational atrophy and maximize the serviceability of the organizational manifestations of our institutions.

Analytic Questions and Conceptualization

Two kinds of questions are addressed in this study. The first deals with establishing the organizational locus of resistance to change, not as active opposition found in the favoring of different proposals for change, but rather, in situational inertia evidenced by an inability or reluctance of organizational members to see the need for change and, even when the need for change is agreed to, moving only grudgingly to face the developments of new organizational arrangements and new processes.

The second question is more narrowly concerned with the way in which the characteristics of individuals in the organization, as to receptivity to change, differ from one another for reasons associated with intra-organizational differentiation or role composition and the salience of certain kinds of organizational roles over others.

Some Theoretical Background

A) Planned Change

The sociologist W. F. Ogburn noted some 40 odd years ago that, "If primitive peoples are asked why they do certain things the way they do, the usual answer is, 'Because it has always been done that way.' [1]

Yet it is not necessary to look to primitive societies to find such determinants of social action; any bureaucracy found in the United States today tends to embrace elements of such an outlook.

Extending this point somewhat, Ogburn also noted that there is indeed continuity to social change, that is to say, most common among kinds of change are small or relatively insignificant--incremental--changes. That generalization seems to be true for developing and developed societies alike.[2] It is only recently that one finds a

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1. W. F. Ogburn, "The Responsibility of the Social Sciences," in On Culture and Social Change (selected papers of W. F. Ogburn edited by Otis Dudley Duncan) Chicago: University of Chicago Press, 1964. p. 99

2. David Braybrooke and Charles E. Lindblom, A Strategy of Decision. New York: The Free Press, 1963. p. 71

serious interest in planned tampering with the mechanisms of society which goes beyond the struggle to adapt to what is conceived of as the inevitable.

In our recent experience in the West of moving toward planned societies, the notion of planned intervention remains a much clouded concept because it is unclear that man has succeeded in assembling a sufficient social technology. Some have argued that it is impossible to isolate one practical cultural problem from another, that the divergent and often conflicting standards of valuation and norms of conduct will tend to interfere with the planned attainment of prescribed social goals. Such goals and associated efforts to pursue them must somehow embrace, conceptually, it has been argued, "all the values and activities which are or will be connected with it in the active experience of all the people who are or will be involved in the realization of your plan."[3] Such boundless criteria for the attainment of planned change express a seemingly impossible ideal. And yet planned action is manifestly an important alternative to a mindless acceptance of an unknown revolution.

Admittedly, the obstacles to induced change are considerable. Some organizations and some settings have been characterized as possibly more amenable to change than others. Bennis, for example, has expressed the opinion,

> "....that changes in the sphere of organizations--primarily industrial--in patterns of work and relationship structure, technology, and administration promise some of the most significant changes in our society. Indeed it is my guess that industrial society, at least in the United States, is more radical, innovative and adventurous in adopting new ways of organizing than the government, the universities, and the labor unions, who appear rigid and stodgy in the face of rapid change.[4]

Following Bennis' contention, in our study it would be expected that strong resistance to change, particularly to change perceived to be of a non-incrememtal character, would be manifest. However, the resistance to change would not be expected to be evenly distributed among all components of the organization.

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3. Znaniecki, Florian, "The Social Role of the Man of Knowledge," New York: Columbia University Press, 1940, p. 86. Quoted in Braybrooke and Lindblom. Op. Cit. p. 12.

4. Warren G. Bennis, "Theory and Method in Applying Behavioral Science to Planned Organizational Change," in The Planning of Change, (edited by Bennis, Kenneth D. Benne and Robert Chin) 2nd edition, New York: Holt, Rinehart and Winston, Inc., 1969. p. 67.

In speaking of universities, educator Clark Kerr has noted that the stronghold in resistance to social change is found in the faculties and that administrations are much more disposed to be in the vanguard of change. The reluctance of the faculty to go along with change, if this characterization is a fair one, may be attributed to the kind of mutual interrelationships among faculty, their collective relationships with other components of the college or university organization and to extra-organizational professional relationships.

B) The Organization As Community

Underlying both the expectation that the faculty might resist change more than the students or administration and the expectation that the causes of this reluctance may be found in faculty collegiality are derivations from a theoretical perspective about which some considerable consensus exists among sociologists.

In the context of sociological theory, following Hawley and MacKenzie, an important organizational consideration in viewing the reaction to social change arises in a distinction concerning the sources of social integration which accounts for the survival of such groups. [5] This theory holds that social integration arises in consensus on the one hand and in the division of labor and concomitant mutual interdependence on the other.[6] Specifically, these integrative forces may be referred to as symbiosis, pertaining to the interdependence of unlike roles, i.e., those found in a division of labor entailing specialization, and as commensalism , a term which alludes to the co-action of like roles, i.e., those with similar functions.

The distinction between symbiosis and commensalism is useful in providing a means of predicting the behavior of groups in a setting in which organizational requirements are seen to entail social change of significant size. Although both features are present in all social groups, symbiosis predominates as a characteristic of corporate groups, those in which an internal division of labor exists, whereas commensalism is of greater salience in categoric groupings, i.e., those groups which embrace "....all individuals who exercise similar demands on and make similar contributions to the community."

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5. Amos H. Hawley, Human Ecology. New York: The Ronald Press 1950: Roderick D. MacKenzie, The Metropolitan Community, New York, 1953.

6. Hawley, Op. cit., p. 209. This distinction Hawley notes, has been observed by a number of distinguished social theorists, such as Herbert Spencer, August Comte, Emil Durkheim, and Ferdinand Tonnies.

The context for the study of organizational developments in this sociological framework is the community. Following Hawley, the community, defined as referring, "....to the structure of relationships through which a localized population provides its daily requirements," is, "....the least reducible universe within which such phenomena may be adequately observed." [8] We treat Boynton Tech aa a community, recognizing the conceptual adaptation from conventional usage for the purposes of the study.

An important question which provides a point of departure in this research bears on the appraisal of resistance to planned adaptive change. What factors influence the probabilities of success in any collective action affecting the welfare of the entire community? As noted above, Bennis has observed that universities are among organizations which appear rigid and stodgy in the face of change, while Kerr alludes to the role of faculties as being at the seat of resistance to change. Hawley has identified categoric groups, such as college faculties, as to a great extent responsible for whatever rigidity a community possesses.[9]

For the moment, let us turn away from this theoretical exegesis to look at the institutional context in which Boynton Tech--now seen theoretically as a community--is located in the larger society. This question of context is crucial in the attempt to see the path of the introduction of change. An important assumption here (i.e., this is not a proposition at test in the study) is that the phenomenon of relatively recent external pressure placed on such organizations accounts for the thrust toward major changes in the organization, a thrust evidenced by substantial and serious evaluative effort carried on at Boynton Tech.

For the purposes of this discussion, let us assume that one or more of the following eventualities is a manifestation of external pressures for change in the organization: rising budget deficit and, in spite of cost reduction procedures instituted, meeting current needs with expenditures of endowment monies; declining numbers of applications holding admission standards constant; increasing difficulty in placing graduates in posts comparable to or better than those attained in the past by graduates of the school. Additionally, let us assume that a concern approaching crisis proportions is found to affect even the most intransigent and withdrawn members of the community. If indeed a crisis of sorts does appear to bring on conditions of action (hence, change), questions of innovation, of cost, and of

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8. Hawley, Op. cit., p. 180.

9. Ibid., p. 211.

uncertainty tend to arise which will impinge on the college community in at least two ways: first, the search for information underlying crucial decisions will tend to intensify and second, a search for talented, superior intellectual resources will get underway.

Addressing the question concerning factors affecting the probabilities of successful adaptive change, another element of concern to us in this study is the timing of the development of the assumed 'crisis' (i.e., whether this was a rapidly or a slowly evolving problem). Wilensky has argued that under conditions of acute crisis, even though an information search activity may encounter resistances, the rapid mobilization of talent and a strong tendency of decision makers to work outside bureaucratic channels may lead to successful response to the conditions which set off the activity. However, a slowly developing crisis may mean that:

> "Decisions involving many people, much money, great uncertainty or vast risks, and major innovations evoke action and advice from every specialized unit at every level of the hierarchy thereby increasing the dangers of overload, distortion, or blockage of communicator and of paralyzing delays. At the extreme, a costly decision that fails can activate an energetic search for evidence to continue the mistaken policy." [10]

Thus, when change is perceived to be more than incremental, when risk and uncertainty come to be widely perceived, and when a slowly developing recognition of crisis evolves, the prospects of strong resistance to sharply focused planned intervention is increased. Moreover, the risk that the change processes will fail to be adaptive with regard to concerns of organizational survival seems to increase. Thus, contending organizational forces which develop less out of the preferences and tastes of individuals and more from the pre-existing organizational conditions themselves may tend to determine the lines of the development of change.

Institutionalization of the Innotive Process.

Both Wilensky and John Gardner have suggested that rapid organizational growth and change occur not only at the inception of the organization but at certain later stages. [11]

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10. Wilensky, Harold L., Organizational Intelligence. New York: Basic Books, 1967, p. 75.

11. Ibid., pps. 82ff. and John Gardner, Self-Renewal, New York.

Moreover, March and Simon have argued that even organizations found in stable environments have in some instances institutionalized the innovative process. [12] Such innovative potential is, according to Wilensky, attended by a membership composition oriented toward innovation. Wilensky refers to the 'missionary' and the 'professional' role orientations as predominating, orientations which place a large emphasis upon reform, in the former case, or upon concerns of extra-organizational audiences of their activities, in the latter. These modes of orientation are contrasted with that of 'careerist,' which denotes those who are considerably less involved in non-local affairs and are less responsive to stresses toward change engendered by incompatibility of extra-organizational goals with those of the organization and, thus, predisposed to organizational adventure. [13]

The Hypotheses

The foregoing theoretical development is not intended as providing the basis for invidious comparisons among organizational components and certainly not among members of the faculty at Boynton. Rather, an attempt is being made here to further understand organizational processes as these tend to be manifested apart from the particularistic concerns of individuals who at any one time may occupy component roles in the organization. The concerns, the motivations and the attitudes of individual members are not the subject of this research even though these characteristics of the various faculty members may be incorporated as data for the purpose of informing the study of organizational processes.

The hypotheses which are derived, then, from the foregoing theoretical development are:

1. Members of the faculty will tend to perceive the need for change in the organization, more as a response to pressures from administrative components than as a matter of faculty recognition of (and action in behalf of) such a need for change in the college.

2. The faculty will be differentiated as to the recognition of the need for organizational change such that those with professional and/or missionary orientation will be more likely to perceive such a need than those with a career orientation.

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12. James G. March and Herbert Simon, Organizations. New York: John Wiley and Sons, 1958. pps. 185-187

13. Wilensky, Op cit., pps. 85-86.

3. The faculty members who recognize the need for organizational change will be more receptive to proposed action or will be more responsive regarding alternative actions which are seen as adaptive and functional (i.e., institution-enhancing) regarding organizational renewal, again in accordance with the degree to which a professional or missionary orientation rather than a career orientation prevails.

It may be seen that the first hypothesis is posed as a recognition of the theoretically resistant position of the faculty regarding change. The second and third hypotheses reflect more upon consideration of professional-career orientations of the faculty, emphasizing intra-faculty differentiation.

This Study and Further Research

It is important to note that the study reported on in the following pages is but one of a series of endeavors which the principal investigators have proposed to undertake in order to explore the problems of organizational renewal in higher education. In that more comprehensive effort, the proposed changes at Boynton Tech, referred to as the Boynton Plan, are the subject of a systematic evaluation which is intended to accomplish several objectives. These are (1) the explication of the processes of planning and policy development in institutions of higher education, (2) the study of the formation of groups which come to play important roles in fostering change and, alternatively impeding social change, and (3) the study of the impact of social and ideological change in the society upon technological training and values in the college setting.

The study of organizational process which is the principle concern of this investigation is to be accomplished by integrating these efforts into an assessment of the attempt at planned change as represented by the Boynton Plan. Three announced concerns of the college are important in the assessment or evaluation effort: That changes be introduced to

a) increase the awareness and concern of Boynton students for the implications of technological development in society;

b) emphasize individual learning experiences, inducing in the student qualities of self-reliance and encouraging a conception of learning as a process which continues as an important part of one's experience throughout life;

c) leave at least undamaged, or, better, improved the high standards of technical training and the accompanying solid reputation this organization holds in scientific, technical and engineering circles.

In the larger study, of which this study is one part four separable investigations are foreseen: (1) a study of institutional goals and objectives at the college, (2) a study of the recruitment processes which affects the composition of successive cohorts of students, (3) a study of the experience of Boynton graduates as this relates to institutional purposes; and, (4) finally, the study of the processes of change at Boynton Tech viewed as an educational community.

Chapter II - The Conduct of Our Inquiry

In many respects the conduct of our inquiry into the sources of innovation and resistance to innovation in an institution of higher learning has been quite conventional. We have done what countless investigators before us have also done; we have generated hypotheses based upon some theoretical development; we have operationalized the concepts used in these hypotheses by developing indicators in the form of structured and semi-structured questions in an interview schedule; we have drawn a random sample of the population we are studying, pre-tested and refined the schedule, interviewed those selected in our sample, coded and analyzed the collected data according to generally accepted canons of procedure for quantitative analysis in the behavioral sciences and, where necessary, we have supplemented this systematic analysis with data drawn from other sources pertinent to our analytic purposes. All very simple and straight forward, but, we would argue, deceptively so. No field research is without its problems and even those who use the most conventional or standardized methods of inquiry are confronted with problematic situations for which there are no ready or standard means of resolution.[1] In the research we are reporting, we had to resolve a number of difficulties which were specific to the context of our endeavor and for which, therefore, there were no standard procedures of resolution available. The manner in which we dealth with these problems is important to an understanding of what we did and consequently to a full appreciation of the results we are presenting in this report.

In order that the reader have available as complete a record as possible of our research experience we present the following discussion of our procedures and the situational problems we confronted in their use.

Developing Rapport

Unlike physical or chemical research, social research almost always involves a reciprocal transaction between the researcher and the subjects of his inquiry. The physicist does not need the cooperation of the atom; the chemist does not need the cooperation of the material element. However, each time the sociologist or the psychologist attempts to elicit information through the interview process, he or she is involved in a collaboration with the subject of the interview, a collaboration which may very well be the key to determining the reliability of the

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[1] For an excellent analysis of problems confronted by those who do research in the social sciences see: Myron Glazer, The Research Adventure, New York: Random House, 1972.

collected data. If the collaboration is easy, if there exists between researcher and subject mutual respect, a sense of common venture -- in other words, if the collaboration is volitional on the part of the subject -- then there is every likelihood that the information which the research elicits will in the very least be reliable. If, on the other hand, the subject has no interest in the research, if he or she collaborates under the duress of being sanctioned or criticized for not having done so; -- in other words if the collaboration is involuntary and difficult -- the information which the researcher elicits will have a high probability of being unreliable.

Thus, a central problem for the social researcher in the field is the development of trust -- the trust which makes volitional collaboration possible. Different field situations present different problems for the evocation of trust. In cross-cultural studies the researcher is a stranger, an alien who must convince those he or she wishes to study that they have nothing to fear from this outsider who seems so interested in them. The researcher has to become less of an alien before he or she can have confidence in the data which the informants are willing to contribute. In research which focuses upon the poor and the disinherited the researcher often has to convince the subjects of the research that the work he or she is doing can have some positive impact on the conditions of their existence.[2] In politically volatile situations the researcher must convince those he or she wishes to study that the results of the inquiry will in no way be used against them.

We could go on and catalogue many more trust problems involved in developing the necessary volitional collaboration between researcher and subject. This, however, would probably constitute needless elaboration of the point we have made. We need only to concretize it with particular reference to the field situation we are concerned with in this report.

The field situation we entered into may be roughy described as follows: The faculty, administration and staff at the college were just about to embark upon the implementation of a plan to redefine their educational mission (see Appendix D). The Boynton Plan implied not only new ways of thinking about curricula, pedagogy and disciplines, but quite explicitly created the expectation that old ways -- traditional academic habits -- would have to be in many instances forsaken for the terra incognita of education experimentation. Thus, the situation at the college could be described by the use of two terms: anticipation and

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[2]For an example of this type of trust building see: Michael Lewis - "Problems of Competence Development Among Ghetto Residents in a Middle Sized City," in B. Farber, D. Harvey and M. Lewis - Community, Kinship and Competence, Vol. III of Research and Development Program in Pre-School Disadvantage Children - U.S. Department of Health, Education and Welfare - Office of Education OEG 10-235.

uncertainty.

There is of course a certain amount of threat in such a situation. When participants in an organization are asked to depart from what they believe to be tried and true ways there is the concomitant implication that the traditional system of reward allocation will be modified so that new standards of accomplishment will replace at least some of the old standards. From the perspective of those involved this is often taken to mean that their organizational status may come to depend upon their ability to do things which in the past they were not called upon to do, things which in many instances they are not at all sure they can do well. Moreover, it is likely that some of those involved in such a situation will be opposed to the new developments and that at least some of these individuals will be concerned that their very opposition could create risks to their security in the organization. It is therefore not at all unlikely that for some of those involved, the developing situation, for all of its possibilities, will be viewed as personally threatening.

The social researcher who enters into a field situation such as the one described above has a potentially very real trust problem to resolve if he or she is going to be able to gain the confidence of the academics who are the necessary collaborators in the research. Some among the research group (or target population) are likely to withold their co-operation until certain questions about the identity of the researchers, the intent of thier research effort and the auspices under which they are acting are answered to their satisfaction. The researcher must be prepared to deal with these questions and, to the best of his ability, allay the sense of concern which respondents or informants may have before the interviewing gets under way.

Of course, the research team on this study had no way of knowing to what extent this sense of concern was operative amongst the academics we were actually to interview. However, because of the potential negative effects such a sense-- if fairly widespread could have on the quality of collected data and, consequently on the entire research endeavor, we decided to take special cognizance of its possible presence and to try to counteract it. This we attempted in the following manner:

1) In two separate meetings -- one with the administrative council of the college and the other with general faculty we outlined the character of our research, taking special pains to explain that as sociologists we were interested in individual opinion and behavior only as it could be expected to shed some light on the processes of organizational change and resistance to such change. In each of these meetings we gave an accounting of our credentials and stressed the fact that we were beholden to no one at the college. We made it a point to indicate that all interview materials would be kept

confidential, that no member of the faculty would be identified, and that all reports made available to any individual at the college would be made available to all members of the academic staff. Finally, we made it clear that we needed their confidences in us if our efforts were to be at all successful.

2) This process of explaining intent, credentials and auspices was repeated when contact was made with individual faculty members preparatory to the scheduling of an interview.

3) In a more informal manner the interviewers covered much the same ground with each of the faculty members they interviewed. This as it turned out was particularly important for several reasons. First, there were several people who had not attended either of the two meetings at which we made our formal presentations. Second, a time lapse of several months had occurred between the time the two meetings were scheduled and the period in which the interviews took place. Thus, it was necessary to reinforce the impression we had earlier attempted to convey. Third, the one-to-one relationship allowed the respondent to air whatever questions he wished to pursue in order to further reassure himself about the character of our endeavor. And fourth, as it turned out, certain rumors and misinformation stemming from the fact that we sampled the faculty (instead of attempting to interview the entire faculty) had indeed surfaced in one department and in the one-to-one exchange we were able to relieve the concern which the rumors had engendered. (In this particular instance, we were told by several members of the department in question that they thought it somewhat unusual that we seemed to have chosen only those of their colleagues who were opposed to the Plan. As it turned out some of their colleagues whom they believed to be opposed were not so in fact. In any case, we explained just how our sample had been chosen and this seemed to allay whatever anxieties the rumor to the effect that we had purposefully selected those in opposition had fostered.)

There is of course the question of whether or not we were successful in establishing the trust so necessary for volitional collaboration. It is the considered judgement of the research team that we did in fact establish the necessary rapport with those members of the faculty who were selected for interviews. In the first place we had no refusals. In those cases where we were unable to interview an individual the reason

turned out to be an artifact of our sample. In one instance the individual had left the college quite suddenly after our sample was drawn. In the other instances we had included people in the sampling frame (a list of faculty employed in the preceding academic year) who had in fact resigned and who therefore were no longer on the faculty . Beyond the evidence of response rate, all those who did the interviewing are in agreement that the interviews were easy to conduct and that in the large majority of cases those interviewed were open and frank in their responses.

The Sample

Originally the research team had intended to interview every member of the Boynton faculty. Because of a delay in the funding of this study it was decided that the time necessary for such an endeavor -- given the resources available to the project -- would carry us too far along into the school year. This would present us with two problems, one methodological and the other practical. On the methodological side, those interviewed late in the academic year would have close to a year's experience with the Boynton Plan and this additional experience could conceivably affect their position with regard to the Plan -- either positively or negatively. If this were so, those interviewed at the close of the field period would in fact be representative of a population which differed somewhat (and perhaps significantly) from the population (the faculty) studied just as the first year of the plan was getting under way. To include late interviews with the earlier interviews would have the potential of influencing our analyses. It would be difficult indeed to measure and evaluate the effect of experience with the Plan on willingness to be receptive to it. We would have no way of knowing where those interviewed late stood with regard to the Boynton Plan at its inception, except as the late respondents were able to recall their respective positions, a procedure which might very well sustain biases impossible to detect. Our concern was with receptivity to innovation at its outset and late interviewing would no doubt ill-serve that concern.

On the practical side, by carrying the interviewing over into the latter part of the academic year, we would create serious problems with regard to the time we would have available for the analysis of our data. Processing data really can not begin in earnest until the field period is concluded. And given the deadline for preparation of this report, we believed that by interviewing every member of the college faculty we would most likely have but two or three months to do the analysis and write our report; a period which we concluded would be too short to complete our work in an adequate manner.

For both of these considerations -- methodological and practical -- the research team decided to forego the attempt to interview the entire faculty. Instead we opted for a probability sample of the faculty. The size of the sample was determined by rough judgements of sampling estimation requirements, the time we expected it would take to complete

the interviews, as well as by considerations of possible non-response and idiosyncratic loss of respondents.

Using a faculty list of people on staff as of the 1970-1971 academic year (the academic year previous to the academic year in which the study was to take place), we randomly eliminated sixty-seven of a total of one hundred and eighty-seven faculty members. This left us with a sample of one hundred and twenty members of the faculty. Of these ninety-eight were ultimately interviewed. The twenty-two people who were not interviewed do not represent non-responses or refusals. They are rather accounted for by (1) turnover (some were no longer on the staff when we began our interviews), and (2) elements in the original sampling list which were inappropriate for our use (some were listed who were in fact not on the faculty or who did not define themselves as full members of the faculty).

The sample developed was a simple random sample in which no effort to insure representativeness by academic department was made. We made no effort in this regard because our projected analysis would have little or nothing to do with departmental affiliation. As it turned out, only one department, of the 17 at the college, Military Science, had no one drawn in the sample and consequently is not represented in our interviews. The percentages of faculty interviewed within each department can be found in Table 1.

Interviewing

We have, in some measure, commented on the interviewing in this study in an earlier section of this chapter. There are, however, several aspects of the interviewing process we should like to discuss here.

As noted in the preceding section, we were concerned with interviewing faculty members before they had experienced working under the Boynton Plan to any great extent. We began our interviewing in the middle of August of 1971 and we completed the interviewing by December 2, 1971. Fifty-three precent of the interviews were completed by September 22, 1971; eighty percent of the interviews were completed by October 26. Thus, we believe it appropriate to conclude that we succeeded in interviewing the faculty before they had experienced the continuing development of the Boynton Plan.

Every attempt was made to hold interviews in privacy. Characteristically, the interviews lasted between one hour and fifteen minutes to an hour and thirty minutes. However, some interviews ran well over two hours and at least one interview lasted no longer than forty-five minutes.

The interviews were conversational in style. Each interviewer, however, worked from a structured format (included below as Appendix A) and in each interview the interviewer asked his or her questions in a

TABLE 1. DISTRIBUTION OF FACULTY DRAWN IN SURVEY SAMPLE AND NUMBERS OF DEPARTMENTAL POSITIONS: BOYNTON TECH, 1971
(Number of Positions Approximate)

Department	Number of Faculty Positions: Full-Time (N)	Number of Faculty Positions: Part-Time (N)	Department	Sample for Survey of Faculty as a Percent of Faculty Positions by Full-Time or Part-Time: Full-Time (%)	Sample for Survey of Faculty as a Percent of Faculty Positions by Full-Time or Part-Time: Part-Time (%)
Chemical Engineering	8	-	Chemical Engineering	50	-
Chemistry	15	-	Chemistry	73	-
Civil Engineering	10	-	Civil Engineering	80	-
Computer Science	4	2	Computer Science	50	-
Economics, Government, and Business	8	1	Economics, Government and Business	37	100
Electrical Engineering	16	5	Electrical Engineering	62	60
English	10	-	English	60	-
History and Modern Languages	8	2	History and Modern Languages	37	-
Library	1	-	Library	100	-
Management Engineering	2	4	Management Engineering	-	25
Mathematics	16	7	Mathematics	75	-
Mechanical Engineering	22	5	Mechanical Engineering	36	100
Berger Research Labs	2	3	Berger Research Labs	-	33
Military Science	5	-	Military Science	-	-
Physical Education and Athletics	7	1	Physical Education and Athletics	100	-
Physics	20	1	Physics	60	-
Non-departmental	2	-	Non-departmental	-	-
TOTAL	156	31	TOTAL	53%	52%
	187			(N=98) 52%	

pre-set order. Thus, as much as possible the interviewing situation was standardized. In order to maximize standardization the three main interviewers (the two principal investigators and an advanced graduate assistant) held frequent meetings during the field period in which problems of meaning in the basic interview items and the use of probes were resolved in a collective as opposed to an individual manner. The interview schedule covered three basic areas: 1) biographical information on the respondent; 2) attitudes toward the problems and issues which characterize innovation and change in higher education; and 3) reaction to the innovations being proposed in the Boynton Plan.

As soon as the interview was completed each interviewer retired to the project office to edit the interview for clarity and enter impressions about how well the collaboration which created the interview data went.

All in all, we are of the opinion that the interviewing process was successful. With some exceptions we were able to collect the data we wanted to collect. In most instances where we failed to collect adequate data, we have concluded that this was not a result of resistance on the part of those interviewed, but that it was rather the fault of poorly conceived questions. For the most part, however, we believe that the interview schedules worked quite well.

Analysis

When most social researchers speak of analysis they usually refer to the statistical manipulations they have performed or the qualitative inferences they have drawn from their data. It is of course true that these analytic tasks are most immediately responsible for the conclusions drawn from the raw data. Nevertheless, these are but two of the components which constitute the analytic process in social research. Analysis begins quite early in the research -- before the first question has been asked of a respondent or an informant.

Whenever a research team prepares to go into the field to collect data, it goes through an exercise which may be termed anticipatory analysis. This analysis may be performed explicitly and with a certain degree of self-consciousness or it may be performed in an ad-hoc and implicit manner; but whatever the style, it is difficult to conceive of a competent social researcher who did not go through the process we shall describe below before he began collecting his data.

Anticipatory analysis refers to the process by which the social researcher develops his field inquiry so that the questions he asks will yield indicators which in turn will allow him to make the inferences he believes are necessary to address the concerns (theoretical or otherwise) which have inspired his particular research endeavor. When the field research is going to make use of an interview schedule of the kind used in this study, the researcher constructs his questions with care to

see that these questions will generate information which will be easily recognized as indicating the operation of one set of conceptual variables (the independent variables) on the other set of variables (the dependent set). In constructing the interview schedule the researcher in a very real sense sets the most significant limits for his research; by posing only certain questions and by posing these questions in a particular way the researcher has dictated the types of analysis which can and cannot be undertaken after the data has been collected. If the conceptual variables have not been adequately operationalized then even the most sophisticated analysis will not produce adequate results. But beyond this, variables adequately operationalized for one type of analysis may not be so for another. The investigator cannot come up with results if he has not collected the "right" data, and whether or not he has collected the "right" data, depends upon whether or not he has appropriately operationalized the conceptual variables in the study.

In the study we are reporting on, the process of anticipatory analysis was explicit and undertaken with considerable self-consciousness. The "Wilensky typology" (a characterization of work orientation) was thoroughly discussed by the research team --particularly in terms of the kind of data we would need for a relatively simple contingency of analysis. After a series of "Wilensky items" were generated the research team edited out those which seemed, on the face of it, to be the least sensitive as indicators of typological difference. For the other items "dummy responses" were generated in an attempt to ascertain the kinds of data which they would elicit. After eliminating several more items on the basis of this procedure, the remainder were left in the schedule for pre-test. After pre-testing the schedule, these items were refined, replaced or simply dropped. Throughout this procedure we kept in mind that no single item was likely to be sensitive enough to distribute the sample in terms of the three categories of the Wilensky typology--Professional, Careerist, or Missionary--and that in our analysis we would probably have to cumulate the responses on several items into an index which differentiated among these categories in the sample (see Appendix C). The same type of process was repeated for each of the other two variable sets-- orientation to general problems of change in higher education; and receptivity to the Boynton Plan.

It is of course true that even the most careful exercise of anticipatory analysis is not foolproof. No group of researchers can fully anticipate the response patterns of those they intend to interview. Therefore, even the most careful anticipation is likely to be confounded in some respects. And as we were to find out we did have some problem with inadequate data with regard to some aspects of our study. Most particularly we had some problems with the data necessary for a sufficient test of hypothesis #1:

> "Members of the faculty will tend to perceive the need for change in the organization more as a response to pressures

from administrative components than as a matter of faculty recognition of (and action in behalf of) such a need for change in the college."

On the basis of this data alone, we concluded that this hypothesis was not supported. In order to offer some interpretation of the extent to which this finding adequately represents the empirical character of the situation under study we have supplemented the interview data with materials drawn from other sources such as memoranda and other documents which have circulated among the staff and students at Boynton Tech.

The actual analysis of data in any study begins with the coding of interview materials. If the formulation of questions sets the most basic limits of the study, coding procedures structure the data within those limits. Coding is a classification procedure by means of which responses to particular interview items are assigned to meaning categories which are derived from the analytic purpose of the study. For each item in the interview schedule there are at least two and most frequently more than two possible classifications. For every usable item in the schedule the researcher must decide what the dimensions of meaning which are to be used for its classification will be. In actuality when coding is involved in the research process, the formal analysis -- statistical manipulation and the drawing of inference -- is no more an analysis of the data as it has been collected as it is an analysis of the data as it has been classified. The meaning of any given response is not determined by the respondent so much as it is determined by the researcher. The formal analysis determines how the distributions of raw data through the meaning classifications operate on one another. It is, therefore, extremely important that the coding be accomplished with careful attention to the dimensions of analysis as implied in the conceptualization of the study's hypotheses.

There are two stages to the coding process. The first stage is code development in which the classifications for each item are derived from the study's conceptualization. The second stage is the actual coding or assignment of responses to the classifications developed in the first stage. As it often turns out the actual coding of responses reveals inadequacies in the original code. Thus the classifications are often refined or changed as the coding process is under way.

In the present study, the basic codes were developed by the principal investigators using the following procedure. Each item in the interview schedule was grouped according to its relation to the three basic conceptual areas of the study: (1) background classification -- the Wilensky typology; (2) orientation to issues and problems regarding the changes in higher education and (3) predisposition or orientation toward the Boynton Plan. Sample responses for open ended items were then studied in terms of their relationship to the basic conceptual areas. A tentative code was developed on the basis of 1) the syntax of the interview item; 2) the relationship of that syntax to the basic

conceptualization; 3) the characteristic syntax of the sampled responses; and 4) the relationship of the response syntax to the basic areas of conceptualization.

The codes were then put into use by two research assistants who did the bulk of the actual classification. Throughout the coding process there was frequent cross-checking between the coders to insure that their independent judgements on particular items in different schedules would be reasonably consistent and therefore that the assigned distributions reliably reflected the procedural design. This, of course, is standard procedure in all coding operations.

There was, however, one major departure from standard coding procedure. There were several instances in which cross-checking revealed inconsistent classifications on the part of the coders. These occurred on items where the responses were long and complex. In these cases, it was decided to code the responses collectively--and both the principal investigators and the research assistants took part in this process. Collective coding involves negotiated classification. In some instances it means that one individual's judgement is rejected because the other coders disagree with that judgement. It should be noted, however, that every coder's opinion is given due weight in arriving at the final classification and that frequently the dissenting coder is able to persuade the others that they have missed a particular nuance in the response in question.

The formal analysis of data in this study has been executed in the following manner. The tests of our major hypotheses have been set up in contingency form. Except for our first hypothesis (see above) we regard this type of analysis as adequate to the form in which our major hypotheses are stated. Chi-square tests for determing statistical significance of differences are used except in cases where expected values are too small. There are, it should be noted, analyses of difference which are ancillary to the major tests of hypothesis. These represent cross-tabulations which the researchers decided were illuminating in and of themselves, although in some cases they do shed some light on the empirical status of our three major hypotheses as well.

Three basic measures of the major conceptual areas in the study have been employed. The first is a measure of professionalization which makes use of seven items in the interview schedule. A median professionalization score was calculated and the sample was sub-divided into high or low professional orientations by use of this median. Those who scored low on the professional orientation were regarded in a residual manner as "careerist" in orientation -- except for those who could be characterized as "missionaries." "Missionaries" were characterized in the following manner. At one point in the interview, respondents were asked to characterize themselves as basically professional, careerist, or missionary in orientation. Those interviews in which respondents had characterized themselves as "missionaries" were examined -- irrespective

of where they scored on the professional orientation measure -- for corroborative indications of a missionary orientation. Where corroboration was found the respondent was classified as a "missionary;" where such corroboration was missing the case was classified as either "professional" or "careerist" in orientation according to where the respondent was located on the professional orientation measure.

Measures for general orientation to change with regard to issues in higher education and receptivity to the Boynton Plan were also constructed. Details of their construction can be found in Appendix C.

In these past pages we have attempted to give the reader some insight into how our inquiry was conducted. We hope that this excursion will prove useful for the reader who, quite justifiably, perhaps is skeptical about the validity of any research results. Our results are not cut and dry. We would be the last to claim that findings speak for themselves. The accuracy of any result is always a function of the character of the research process which yields the result. Faulty research invalidates even the most interesting findings. We hope that the materials in this chapter will allow our readers to come to their own considered conclusions about the quality of our efforts and consequently about the credence they wish to give to the results we will describe in the remainder of this report.

Chapter III: Study Results

The data and the analysis presented in this chapter come largely from the survey of members of the Boynton Tech faculty conducted in the late summer and the fall of 1971. Information obtained both in the interviews and through discussions with members of the Boynton community have helped to form and flush out the characterizations of the faculty as these pertain to the analysis presented here.

Descriptive Statistics

Academic features of the Boynton Tech faculty: In 1971, the school which is the setting for this investigation had an enrollment of roughly 2000 students and a faculty of approximately just under 200. The school's own publications styled Boynton as a small independent college of science and engineering with an obvious pride in a tradition going back over 100 years. The college faculty is arrayed among departments as shown in Table 1 (see Chapter II). This table shows the distribution of faculty according to department in the school and the distribution of the survey sample drawn for the purposes of the interviewing on which this study is primarily based. Since the sample of faculty to be interviewed was drawn without regard to the departmental affiliation, it is not surprising that the two distributions are not closely similar.

Table 2 shows the faculty distributed by academic rank and by highest degree within departmental groupings. Table 3 shows that the faculty at Boynton see themselves principally occupied with teaching both in terms of how they spend their time and which activities they judge as most important among those in which they are engaged, although research is not insignificant here. Regarding the number of years spent at Boynton, Table 4 shows a relatively rectangular distribution over five-year duration groupings.

Sex, age, and race: About 99 percent of the surveyed faculty are male and are white. Diversity as to age is shown in Table 5. The age distribution shows a disproportionate concentration of faculty in the age group 35 to 49, a fact which can only be partly explained by the attrition due to early retirement or death in the age class of 50 years of age and older. Other work is planned to attempt to address the timing of faculty attrition and replacement over the last fifteen years, in expectation that it may have a bearing on the changes or the

TABLE 2 DISTRIBUTION OF FACULTY BY ACADEMIC RANK AND BY HIGHEST DEGREE WITHIN DEPARTMENTAL GROUPINGS

	Science	Engineering	Social Science and Humanities	Other	Total
	(1)	(2)	(3)	(4)	(5)
Rank	(%)	(%)	(%)	(%)	
Full Professor	38	49	11	3	101% (N=37)
Associate Professor	33	44	4	19	100% (N=27)
Assistant Professor	36	29	25	11	101% (N=28)
Other	33	17	17	33	100% (N= 6)
Total	36	40	13	11	100% (N=98)
Highest Degree					
Ph.D. or Sc.D	49	43	8	0	100% (N=51)
Degree in Progress	18	27	45	9	99% (N=11)
Other Degree	22	39	11	28	100% (N=36)
Total	36	40	13	11	100% (N=98)

TABLE 3 DISTRIBUTION OF FACULTY RESPONSES AS TO KIND OF ACTIVITY WHICH REQUIRES MOST TIME AND ACTIVITY WHICH IS REGARDED AS MOST IMPORTANT: BOYNTON TECH, 1971

(Percentages add to more than 100 because of ties)

	Activity						
	Undergraduate Teaching	Graduate Teaching	Consulting Students	Research	Consulting Non-Academic	Administrative Work	Other and N.A.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(%)	(%)	(%)	(%)	(%)	(%)	
Requires Most Time.....	71	7	9	12	3	13	2
Regarded as Most Important.....	54	4	11	7	1	3	19

TABLE 4 DISTRIBUTION OF FACULTY BY NUMBER OF YEARS AT BOYNTON: BOYNTON TECH, 1971

1 to 4 YEARS	5 to 9 YEARS	10 to 14 YEARS	OVER 15 YEARS	TOTAL
28%	28%	20%	24%	100% (N=98)

TABLE 5 DISTRIBUTION OF FACULTY BY AGE: BOYNTON TECH, 1971

UNDER 35	35 - 49	50 and Over	TOTAL
20%	48%	32%	100% (N=98)

receptivity to changes going on at Boynton Tech.

Marital Status: Table 6 shows that the faculty of Boynton conform closely to the national marital norms for males. With 91 percent currently married, no treatment of this factor -- or of race and sex -- is planned.

Receptivity of Faculty Regarding the Boynton Plan:

Principal interest in this study lies in the role of the faculty in initiating and supporting the Boynton Plan. This Plan is seen as an instrument of planned organizational change in the context of an organization heavily pressed toward change. In our study proposal, we had conjectured that the changes being undertaken at Boynton had arisen in extraordinary circumstances. Moreover, we had introduced assumptions in the study that the conditions attending an institutional crisis must be present in order to account for the apparent size and impact of the planned change which was being considered. We later found this assumption to be warranted at least in that Boynton Tech appeared to experience problems of many colleges and universities apart from state-supported schools at the end of the 1960's.[1] Moreover, the apparent excessive number of trained engineers in Massachusetts and California which coincidentally made its appearance at about the same time, associated with shifts in the Federal support of defense and space research and development would seem to have made the Boynton situation all the more acute.

We have reasoned that the response of the Boynton community to these conditions would not be evenly distributed over the various components of the school in accordance with the theoretical framework provided in Chapter 1. Although it might be argued that the Boynton Plan represents only one of what might be a variety of alternative organizational responses, we have not encountered in the course of the study any such clear alternative views. Rather, the faculty appears either to favor, in various degrees, or to disapprove of the Boynton Plan. No alternative models, if any have been put forth, appear to have survived in the outlook of interviewed faculty up to the date of the study in the fall of 1971.

The receptivity of the faculty regarding the Plan is measured by several questions asked of faculty members both as to their feelings about the Plan in a current sense as well as in the past. Questions regarding effort expended in support of the Plan, (activities which

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[1]Earl F. Cheit, The New Depression in Higher Education: A Study of Financial Conditions of 41 Colleges and Universities. New York: McGraw-Hill Book Company, 1971.

Table 6 DISTRIBUTION OF FACULTY BY MARITAL STATUS: BOYNTON TECH, 1971

SINGLE	MARRIED	DIVORCED	TOTAL
6%	91%	3%	100% (N=98)

were voluntarily directed toward the design or the endorsement of the Plan) further distinguished among faculty favoring the Plan. Two of these questions were used for the analyses in this section. Details on the measurement of receptivity are found in Appendix C.

Table 7 describes the receptivity of faculty according to groupings by academic department. Both in the frequency of active support of the Plan and in the past, and in the infrequency of current opposition, the humanities and social sciences showed the strongest support, followed by the engineering group and lastly by the sciences. Faculty in other departments appeared to show little strength in either active support or opposition to the Plan. Thus, 84 percent of the faculty are reported as favoring the Plan, and even in departmental groupings where the strongest opposition is apparent, three out of four faculty members currently favored the Plan. However, clear differences among department groupings are apparent.

Table 8 shows that full professors were less likely to provide active support and more likely to oppose the Plan than were associate professors, however, the statistical significance of these differences are quite marginal. Faculty at other than these senior ranks were less likely to either endorse or oppose the Plan. Faculty with Ph.D. or Sc.D. degrees, although more frequently opposed to the Boynton Plan, were also substantially more actively involved in supporting the Plan than faculty without such degrees (Table 9).

Rank and, to a lesser extent, highest earned degree are in part a function of the duration of career development in an academic setting. Since age is correlated with such development, it would be expected for example that some of the differences in outlook, regarding the Plan associated with rank, would signal differences in a similar direction by age. Table 10 accordingly shows that the percent of faculty opposed to the Plan rises with age; however, active support of the Plan, while more substantial at ages 35 and above, does display a corresponding decline among the oldest faculty.

Consistent with the results by rank, and less so by age, are those by years of stay at Boynton as shown in Table 11. Faculty with sixteen or more years of service at Boynton are less likely to have actively supported and are more likely to have opposed the Boynton Plan than those with fewer years at Boynton Tech. Recent arrivals at Boynton while similar to the middle duration group in support of the Plan display markedly little opposition to the Plan.

It had been conjectured during the study that those who had moved about a great deal in the course of their careers would be less committed to any given institutional position and that these faculty

TABLE 7 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY DEPARTMENT GROUPS: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed to Plan	But Opposed in Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Department Grouping	(%)	(%)	(%)	(%)	(%)	(%)	
Science	26	14	8	20	11	20	99% (N=35)
Engineering	13	21	15	21	28	3	101% (N=39)
Humanities & Social Science	0	23	15	23	31	8	100% (N=13)
Other	0	73	18	9	0	0	100% (N=11)
Total	14	24	13	19	19	9	98% (N=98)

TABLE 8 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY ACADEMIC RANK: BOYNTON TECH, 1971

		Favor Plan						
				And Favored In Past				
					Have Actively Supported			
	Academic Rank	Opposed to Plan	But Opposed in Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
		(%)	(%)	(%)	(%)	(%)	(%)	
	Professor	24	24	5	11	24	11	99% (N=37)
	Associate Professor	11	26	11	22	26	4	100% (N=27)
	Assistant Professor	7	21	14	32	11	14	99% (N=28)
	Other	0	33	67	0	0	0	100% (N=6)
	Total	14	24	13	19	19	9	98% (N=98)

TABLE 9 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY HIGHEST ACADEMIC DEGREE ATTAINED: BOYNTON TECH, 1971

			Favor Plan				
			And Favored In Past				
				Have Actively Supported			
	Opposed to Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Highest Degree Attained	(%)	(%)	(%)	(%)	(%)	(%)	
Ph.D. or Sc.D.	22	18	4	24	24	10	102% (N=51)
Degree in Progress	0	36	27	9	18	9	99% (N=11)
Other	8	31	22	17	14	8	100% (N=36)
Total	14	24	13	19	19	9	98% (N=98)

TABLE 10 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY AGE: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed to Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	(%)	(%)	(%)	(%)	(%)	(%)	
Under 35	4	19	15	38	12	12	100% (N=26)
35 - 49	13	30	15	13	23	6	100% (N=47)
50 and over	30	25	5	10	20	10	100% (N=20)
N.A.	20	0	20	20	20	20	100% (N= 5)
Total	14	24	13	19	19	9	98% (N=98)

TABLE 11 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY NUMBER OF YEARS AT THIS INSTITUTION: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed to Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Number of Years At Boynton	(%)	(%)	(%)	(%)	(%)	(%)	
1 - 5	3	23	19	26	19	10	100% (N=31)
6 -15	16	23	9	16	25	11	100% (N=44)
16 or more	26	30	13	17	9	4	99% (N=23)
Total	14	24	13	19	19	9	98% (N=98)

might tend to favor the Plan. The top panel of Table 12, suggests that this is probably not the case, for even though a somewhat larger proportion of those with five or more positions were members of groups actively supporting the Plan than those with fewer, those with higher numbers of positions tended to more often oppose the Plan. When only academic positions are considered, as shown in the middle panel of Table 12, larger opposition among those with more numerous position continues, but there is clearly less active support of the Plan than is found among those with fewer positions. The academics who have had non-academic experience in earlier positions are not differentiated sharply from their colleagues, as seen in the botton panel of Table 12, except that at the statistical margin they are slightly less supportive of the Boynton Plan.

About 86 percent of the Boynton faculty report that the largest share of their working time goes into undergraduate teaching as is shown in Table 13. Those who report research as calling for most of their time appear to have more often provided active support of the Boynton Plan and were less likely to be opposed to the Plan than those whose major time consuming activities were undergraduate or graduate teaching, including consultation with students. Only those reporting "administration" as the leading time-consumer approximated the level of support attained by the research group in relation to the Plan.

Another conjecture which had developed among the staff in pursuing the study was that those who were committed to Boynton Tech and to the local area would be less likely to favor the Plan than those who were mobile and who had lesser commitments to the school. As Table 14 indicates, these expectations were not even mildly supported. There was no difference with regard to percentages in opposition to the Plan and, although a somewhat larger proportion of those willing to take "a better offer" actively supported the Plan, that difference was not statistically significant.

Three offices or components of the school, the President, the faculty and the trustees of Boynton were adjudged by at least one-third of the faculty as having at least "a great deal of influence" on how decisions are made at Boynton Tech. Other contenders about which such judgements were made were the Administrative Advisory Council -- a group made up largely of department heads, the department heads individually, the student body, the alumni, and the individual members of the interviewed faculty who were asked about their own position in this regard (Table 15).

The President of Boynton Tech came out far and away the most strongly perceived force in the context of this question, both in terms

TABLE 12 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY NUMBER OF ACADEMIC AND NON-ACADEMIC POSITIONS HELD: BOYNTON TECH, 1971

Number of Positions	Opposed to Plan	Favor Plan: But Opposed In Past	Favor Plan and Favored In Past: Have Not Actively Supported	Favor Plan and Favored In Past: Have Actively Supported: But Not A Member of Organized Group	Favor Plan and Favored In Past: Have Actively Supported: As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(%)	(%)	(%)	(%)	(%)	(%)	
All Positions							
Less than 5	8	22	14	29	14	12	99% (N=49)
5 or more	20	27	12	10	24	6	99% (N=49)
Academic Positions							
Less than 4	9	17	17	28	19	11	101% (N=54)
4 or more	20	34	9	9	20	7	99% (N=44)
Non-academic Positions							
None	16	19	12	23	21	9	100% (N=43)
One or more	13	29	15	17	18	9	101% (N=55)
Total	14	24	13	19	19	9	98%

TABLE 13 DISTRIBUTION OF RESPONSES OF FACULTY REGARDING ACTIVITIES REQUIRING THE LARGEST AMOUNT OF TIME[1] BY RECEPTIVITY TO THE BOYNTON PLAN: BOYNTON TECH, 1971

(Since faculty frequently reported more than one activity, the numbers shown do not equal the number of faculty.)

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed to Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Activity	(%)	(%)	(%)	(%)	(%)	(%)	
Undergraduate Teaching	15	25	14	18	17	11	100% (N=84)
Graduate Teaching	15	15	20	25	20	5	100% (N=20)
Consulting With Students	21	24	7	19	17	12	100% (N=42)
Research	4	17	8	33	29	8	99% (N=24)
Consulting Non-academic[2]	19	27	12	12	23	8	101% (N=26
Administrative Work	9	32	5	18	32	5	101% (N=22)

1) Largest amount of time is defined for purposes of this table as being the activity or activities ranked first and second among ranking of all activities of each faculty member.

2) Because non-academic consulting was reported as a leading time consuming activity quite infrequently, this entry contains responses for those reporting a ranking of one through five.

TABLE 14 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY WILLINGNESS TO TAKE A BETTER OFFER IN A DIFFERENT PART OF THE COUNTRY: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed To Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Take Better Offer	(%)	(%)	(%)	(%)	(%)	(%)	
Yes	14	22	10	25	24	6	101% (N=51)
No	15	30	10	15	20	10	100% (N=20)
Uncertain	5	24	29	10	14	19	101% (N=21)
N.A.	50	33	0	17	0	0	100% (N= 6)
Total	14	24	13	19	19	9	98% (N=98)

TABLE 15 DISTRIBUTION OF FACULTY JUDGEMENTS AS TO THE AMOUNT OF INFLUENCE OR SAY EACH OF VARIOUS PERSONS OR AGENCIES HAS ABOUT DECISIONS MADE IN THE SCHOOL: BOYNTON TECH, 1971

	Amount of Influence						
	Little Or None	Some	Quite A Bit	A Great Deal	A Very Great Deal	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Person or Agency	(%)	(%)	(%)	(%)	(%)	(%)	
Board of Trustees	16	28	16	23	7	9	99% (N=98)
President of Boynton	0	1	15	44	35	5	100% (N=98)
Administrative Council	11	34	26	16	2	11	100% (N=98)
Faculty	2	27	32	32	5	3	101% (N=98)
Department Head	12	43	22	5	1	16	99% (N=98)
Student Body	9	52	26	6	0	7	100% (N=98)
Alumni	49	31	3	2	0	15	100% (N=98)
You Yourself	41	37	9	6	0	7	100% (N=98)
Total	14	24	13	19	19	9	98% (N=98)

of the absence of judgements that he had "little or no influence" but especially in the 79 percent who considered him or that office to have at least "a great deal of influence."

Of special interest in examining the views held by faculty regarding the locus of decision on the campus is the lack of differences in the judgement of the degree of influence of the President according to receptivity regarding the Boynton Plan. Table 16 showed that 93 percent of those currently opposed to the Boynton Plan, and 83 percent of those most actively in favor, i.e., who were members of groups in the past working on the Plan, saw the President as having a great deal or a very great deal of influence. The other members of the faculty whose positions are apparently not so pronounced in either favoring or opposing the Plan have similar views, although not in the same degree, in appraisal of the President.

However, 56 percent of those who worked in organized groups for the Plan judged the faculty as having at least a great deal of influence in contrast to only 29 percent of those who opposed the Plan, as shown in Table 17. Similarly, the trustees are regarded, in Table 18, as having a great deal or a very great deal of influence by 42 percent of these supporters working in organized groups, a view shared by only 14 percent in the group who were opposed to the Plan.

The Initiation of Change: An Hypothesis

We had predicted that members of the faculty as a categoric group (as defined on page 6) would tend to perceive the initiated change in the college more as a function of pressure from the administration than as a function of faculty recognition of the need for such change and faculty involvement in the planning and execution of responses to this need. Specifically, we had expected relatively few faculty to identify the impetus for change in the faculty itself. The data from the faculty interviews failed to confirm this prediction. Some 57 percent of the sample located the impetus for change at least in part within the faculty.

However, simply reporting this finding, we believe, does not do justice to the situation as it has developed among the faculty at Boynton Tech. Using information other than that obtained in the sample survey, we should like to place the interview results in a broader analytic context.

The faculty at Boynton does not have a long tradition of intense involvement in the governance of their college. It is only in recent years that the faculty, as distinct from the administration (inclusive of department heads), has asserted itself in matters ranging from

TABLE 16 DISTRIBUTION OF FACULTY JUDGEMENTS REGARDING THE AMOUNT OF INFLUENCE OR SAY THE PRESIDENT OF THE SCHOOL HAS BY RECEPTIVITY TO THE BOYNTON PLAN: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
Amount of Influence - President of Boynton Tech	Opposed Tp Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(%)	(%)	(%)	(%)	(%)	(%)	
Little or No	0	0	0	0	0	0	
Some	0	0	0	5	0	0	1
Quite a Bit	7	8	23	26	16	11	15
A Great Deal	79	33	54	37	26	56	44
A Very Great Deal	14	46	23	21	58	33	35
N.A.	0	13	0	12	0	0	5
Total	100 (N=14)	100 (N=24)	100 (N=13)	101 (N=19)	100 (N=19)	100 (N= 9)	100 (N=98)

TABLE 17 DISTRIBUTION OF FACULTY JUDGEMENTS REGARDING THE AMOUNT OF INFLUENCE OF SAY THE FACULTY HAS BY RECEPTIVITY TO THE BOYNTON PLAN: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
Amount of Influence-Faculty	Opposed To Plan (1)	But Opposed In Past (2)	Have Not Actively Supported (3)	But Not A Member of Organized Group (4)	As A Member of Organized Group (5)	N.A. (6)	Total (7)
	(%)	(%)	(%)	(%)	(%)	(%)	
Little or No	14	0	0	0	0	0	2%
Some	29	29	31	16	32	22	27%
Quite A Bit	29	38	23	53	16	22	32%
A Great Deal	29	25	46	21	42	33	32%
A Very Great Deal	0	0	0	5	11	22	5%
N.A.	0	8	0	5	0	0	3%
Total	101% (N=14)	100% (N=24)	100% (N=13)	100% (N=19)	101% (N=19)	99% (N=9)	101% (N=98)

TABLE 18 DISTRIBUTION OF FACULTY JUDGEMENTS REGARDING THE AMOUNT OF INFLUENCE OR SAY THE BOARD OF TRUSTEES HAS BY RECEPTIVITY TO THE BOYNTON PLAN: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed To Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
Amount of Influence - Board Of Trustees	(1) (%)	(2) (%)	(3) (%)	(4) (%)	(5) (%)	(6) (%)	(7)
Little Or No	36	17	15	5	16	11	16% (N=16)
Some	43	25	15	21	26	44	28% (N=27)
Quite a Bit	0	25	8	21	16	22	16% (N=16)
A Great Deal	7	17	38	32	26	22	23% (N=23)
A Very Great Deal	7	8	8	0	16	0	7% (N= 7)
N.A.	7	8	15	21	0	0	9% (N= 9)
Total	100% (N=14)	100% (N=24)	99% (N=13)	100% (N=19)	100% (N=19)	99% (N=9)	99% (N=98)

tenure policy to curriculum planning. In fact, the growth of faculty assertiveness and the development of the Boynton Plan are roughly correlated in time. It may very well be that this idiosyncratic fact of a late-blooming concern for governance among the faculty accounts for the results which confound our prediction.

A sequence of actions and events leading up to the adoption of the Boynton Plan can be sketched out as follows: A number of faculty, unhappy about the character of the academic experience at Boynton, began meeting on a fairly regular basis. The output of these meetings was -- as best as we can tell -- fairly diffuse, with a few curriculum suggestions which were not adopted by the college's Executive Committee. During the same period the President and the Board of Trustees, taking cognizance of Boynton's difficult competitive position in the academic market, resolved that the college needed some basic planning and re-direction for the future. The President requested that the Executive Committee take on the obligation of preparing such a course of action. When the Committee failed to come up with an adequate response to his request, he turned to those faculty members who had been meeting informally and constituted a number of them as a planning committee. The planning committee was later re-constituted by faculty action -- although in large measure the original appointees continued to serve. After a period of time and four drafts of the plan, a final Boynton Plan was adopted by the faculty by a 2 to 1 margin. During the course of the Plan's development, the President who had given the original committee its mandate resigned and was replaced by a man who has been an enthusiastic supporter of the Plan.

If this sequence of events is accurate, we should conclude that:

(1) The impetus for the Plan did in fact come from the upper administration.
(2) There were faculty, who because of concerns which antidated the Plan, were ready, willing and able to engage in planning activity when the opportunity came.

(3) There has been consistant administrative support -- at least at the higher levels -- for both the planning activity and the plan itself.

The fact of faculty involvement from the outset corroborates the survey findings and further indicates that our hypothesis is not supported.

Orientation Toward Change: Test of an Hypothesis

The theoretical approach to differentiation among the faculty who are the subject of this research proposes that important differences

in the outlook of faculty regarding changes would exist at levels removed from the school itself. Further, this approach suggests that not only will differences be found among faculty in this regard but that faculty who are aware or knowledgeable concerning issues relating to policies in higher education in the United States would tend to respond more favorably to planned change (assuming such change is responsive to organizational needs) in the specific and tangible context of Boynton Tech itself. Is the response to change among those faculty largely specific to the structure at Boynton Tech or is it a manifestation of judgements regarding issues of wider and more general significance.

The measurement of orientation toward change is discussed in detail in Appendix C. Briefly restated, several questions were asked of faculty regarding their concerns about several national issues bearing on policies with regard to higher education. These questions ranged from very general concerns about who gets educated to the more narrow concerns about the role of the social sciences and the humanities in the education of engineers and scientists. The faculty responses were evaluated for the purposes at hand on an innovative-conservative dimension, wherein the study staff made judgements as to the receptiveness of faculty members regarding changes as well as to the strength of this receptiveness, or lack thereof, relative to other faculty members. The results of this characterization are shown in a distribution of faculty by orientation toward change by age in Table 19.

Working from this four-position scale, shown in Table 15, the distribution by age shows only insignificant differences between age groups under 35 and 35 to 49 years. However, these two age groups are significantly different from the older faculty, those in the age group of 50 years and over, where the proportions strongly innovative and conservative are contrasted. As was the case with the effect of age on receptivity to the Boynton Plan, the older faculty are both more conservative and less strongly innovative than are the younger faculty. There is an important difference, however, in that while the proportion of "strongly innovative" drops off in this older age category, the same aged component of the faculty does not show a decline in the proportion who worked in organized groups in support of the Plan.

The relationship between the degree of receptivity to the Boynton Plan and orientation toward change is displayed in Table 20. When the proportions opposed to the Boynton Plan and those actively supporting the Plan through organized groups are contrasted, there is a very clear statistically significant relationship in which the support of the Plan is directly, and opposition to the plan is inversely related to the degree to which orientation toward change is innovative.

Several questions were raised with faculty members about the way they saw the Plan having affects on various components or interests of

TABLE 19 DISTRIBUTION OF FACULTY BY ORIENTATION TOWARD CHANGE BY AGE: BOYNTON TECH, 1971

	Orientation Toward Change					
	Strongly Innovative	Mildly Innovative	Neutral	Conservative	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)
Age	(%)	(%)	(%)	(%)	(%)	
Under 35	33	43	5	19	0	100% (N=21)
35 - 49	27	47	8	16	2	100% (N=49)
50 and Over	9	35	17	39	0	100% (N=23)
N.A.	40	0	20	40	0	100% (N= 5)
Total	24	41	10	23	1	99% (N=98)

TABLE 20 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY ORIENTATION TOWARD CHANGE: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
Orientation Toward Change	Opposed To Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	(%)	(%)	(%)	(%)	(%)	(%)	
Strongly Innovative	0	25	8	29	33	4	99% (N=24)
Mildly Innovative	10	23	15	18	20	15	101% (N=40)
Neutral	30	10	0	30	10	20	100% (N=10)
Conservative	30	35	22	4	9	0	100% (N=23)
N.A.	0	0	0	100	0	0	100% (N= 1)
Total	14	24	13	19	19	9	98% (N=98)

the school. Among these was a question about the affect of the Plan on the students who, following graduation from Boynton Tech, would be going in search of careers possibly better prepared or less well prepared than their predecessors. Table 21 shows that there are, indeed, differences between those faculty with conservative as opposed to strongly innovative orientations. Surprisingly, however, faculty in these extreme orientation groups not only did not differ in the proportions judging that students would be more competent or, conversely, less competent, but both groups displayed a 50-50 split as to whether competency would increase or fall off. The differences noted between the conservatives and those with a strongly innovative orientation appear in (1) whether the Plan would make any difference or not in the experience of Boynton Tech graduates, and (2) whether the students would become more alert and more aware of the world. Those with an innovative orientation conjectured more frequently than the conservatives that the students would be more alert and more aware of the world and less frequently that the Plan would tend to make little difference. Of additional interest in this table is the basically pessimestic view regarding the effect of the Plan upon graduated students who have studied under the Plan among those judged as neutral as to orientation toward change. Part of this result would appear to be an artifact of the way in which judgements were made as to orientation toward change, wherein those who had little to say and showed a relatively low level of awareness regarding these issues tended to fall in the central areas in the orientation-to-change dimension.

Another question about the effect of the Plan directed to faculty members was raised about the effect of the Plan on the faculty as a whole (Table 22). Interestingly, no significant pattern appears except that the mildly innovative are somewhat different from those who are reported as neutral on the orientation toward change. More striking is the consensus across the spectrum of orientation toward change expressed in the one-third to two-fifths of the faculty who believe that there will be some disruptive or disturbing effects, i.e., if more turnover, decline in morale, polarization, and "some will do better than others" are indications of such effects.

In summary it may be said that the faculty are differentiated as to orientation toward change and that the hypothesis referred to in this section was supported by evidence that, to the degree to which an innovative position regarding higher education on the orientation measure represents a recognition of the need for change, those expressing endorsement of the need for change on a supra-institutional level were more receptive of planned change -- as expressed in the Boynton Plan -- at Boynton Tech.

TABLE 21 DISTRIBUTION OF FACULTY RESPONSES REGARDING EFFECT OF BOYNTON PLAN ON POSTGRADUATE EXPERIENCES OF STUDENTS BY ORIENTATION TOWARD CHANGE: BOYNTON TECH, 1971

(The number of responses shown in this table is larger than the number of faculty.)

	Orientation Toward Change					
	Strongly Innovative	Mildly Innovative	Neutral	Conservative	N.A.	Total
Judgement of Postgraduate Experiences of Students	(1) (%)	(2) (%)	(3) (%)	(4) (%)	(5) (%)	(6)
More Alert, Aware of the World	32	24	9	14	0	23%
More Competent, Better Engineer, Better Advancement	29	28	9	25	0	26%
Less Competent, Less Able To Get A Job, Problems, Etc.	26	17	18	25	0	22%
Little Difference, Depends on Type of Student, Other	9	24	36	21	0	20%
N.A.	3	7	27	14	100	10%
Total	99% (N=34)	100% (N=46)	99% (N=11)	99% (N=28)	100% (N=1)	101% (N=120)

TABLE 22 DISTRIBUTION OF FACULTY RESPONSES REGARDING EFFECTS OF BOYNTON PLAN UPON THE FACULTY AS A WHOLE BY ORIENTATION TOWARD CHANGE: BOYNTON TECH, 1971

(The number of responses shown in this table is larger than the number of faculty.)

Judgment of Effects of Plan on Faculty	Orientation Toward Change: Strongly Innovative (1) (%)	Mildly Innovative (2) (%)	Neutral (3) (%)	Conservative (4) (%)	N.A. (5) (%)	Total (6)
Accommodation, Adaptation or No Effect	20	15	31	23	0	20%
More Turnover, Morale Down, Polarization, Some Will Do Better Than Others, Etc.	40	38	46	35	0	38%
Quality Will Improve, Morale Up, Faculty Will Have to Work Harder	23	35	15	27	0	28%
Other and No Answer	17	13	8	15	100	15%
Total	100% (N=35)	101% (N=48)	100% (N=13)	100% (N=26)	100% (N= 1)	101% (N=123)

Professionalization and Change: Tests of an Hypothesis

Of major interest in this research is the test of an hypothesis developed from a discussion by Wilensky and described in detail in Chapter I. This hypothesis is based on distinctions drawn as to compositional differences in memberships of organizations. The main distinction sets apart, first, those members of the organization whose work, self-identification and rewards are defined by professional objectives and organizational objectives which are for the most part not in the immediate physical environment of the member. The remainder of organizational members, for the most part, are those whose work and commitments are largely defined within the organization itself or by the environing elements, such as the body of co-workers and the like. These two components of organizational membership are identified by the terms "professional" for the former and "careerist" for the latter. The hypothesis in question suggests that the professional is more receptive to planned change than is the careerist. Moreover, as an elaboration of the hypothesis relating to orientation toward change, the professional is not only seen to be more likely to perceive the need for change than the careerist, he is also more likely to do something about it once he has seen this need.

The hypothesis concerning professional versus career orientations is also elaborated to separate a "missionary" group, those with commitments that go beyond institution and profession toward certain purposes which may be conceived of as reforming in nature with regard to what the organization does, or what its product is, or possibly, in other respects. According to the Wilensky thesis, these kinds of members are thought to be present in larger proportions in organizations undergoing planned change, or organizations with the potential to move in such a direction, than is normally the case.

Two approaches were used in the analysis of change at Boynton Tech with respect to professional-careerist-missionary orientation. One approach was presented by asking each faculty member to choose among three statements for the purpose of self-characterization. These statements are found on page 34 of the faculty interview which is presented in Appendix A. The second approach entailed identifying seven elements from the questionnaire and using these to assess the "degree of professional orientation," the context of which is presented in Chapter 2 and in Appendix C. Given a range of values in the professionalization index thus constructed, it was then proposed that (1) the "missionaries" to be found in the faculty would have identified themselves as such, and (2) a review of the interview results for each such faculty member would reveal any persons whose missionary self-characterizations appeared to be inappropriate given other elements in their responses. Partly because of the small number of self-reported "missionaries" found and

and partly because of the difficulty of satisfactorily characterizing these as "missionary" on grounds other than self-reporting, this last step was abandoned.

Faculty classified by age are distributed according to the degree of professional orientation in Table 23. If "high" index values 4 through 6 are combined and contrasted with the "low" group, 0 through 3 (although a value of 7 was possible, it was not found in the data for the faculty surveyed), the faculty under 50 are found to rank higher in the index more often than those 50 years of age and older. No apparent difference is found between the under 35 years and the 35 to 49 years groups.

Table 24 displays the distribution of faculty by receptivity to the Plan by degree of professional orientation. Contrary to expectations, this table shows no difference in the proportion opposed to the Boynton Plan. However, those classed as "high" on the professional orientation measure have a significantly larger proportion who were actively supporting the Boynton Plan (the Chi-square value for this comparison showed the difference to be significant at the .05 level). For purposes of comparison, self-reporting of professional-career-missionary orientation is displayed in Table 25 by planned receptivity. The previous comparison entailing those opposed and those actively supporting the Plan does not reveal differences along the expected line. This is even more the case if those who reported "careerist and missionary" are added to the "careerist" category.

If it is assumed that the response of faculty to pressures to change are affected not only by innovative-conservative concerns but by levels of awareness regarding the issues which form in part the context for change, then the Wilensky proposition might be reformulated to take awareness differences into account. Upon reviewing the relatively poor showing of the professional orientation measure, particularly the self-reporting of persons as to professional versus careerist position, it was conjectured that the level of awareness of faculty members with regard to the issues impinging upon the educational scene might constitute a confounding influence. Therefore, a measure of awareness which had been previously constructed was introduced as a control in examining the measure of professional orientation.

This measure of awareness was coded by examination of the answers to the same first three questions used to create the "orientation toward change" measure. Each question was coded according to the level of comprehensiveness of response on a scale ranging from 0 to 3, from no response to superficial, uneven, and, for a code of 3, comprehensive. The scores for each of the three questions were simply added to achieve index values ranging from 0 to 9. Once these scores were displayed for the faculty as a whole, the median value was located so as to approximately divide the faculty into high and low levels of awareness.

TABLE 23 DISTRIBUTION OF FACULTY BY DEGREE OF PROFESSIONAL ORIENTATION BY AGE: BOYNTON TECH, 1971

	LOW						HIGH	
	(0)	(1)	(2)	(3)	(4)	(5)	(6)	Total
Age	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
Under 35	0	14	19	5	29	24	10	101% (N=21)
35 - 49	2	8	18	20	24	22	4	98% (N=49)
50 and Over	4	13	22	43	13	4	0	99% (N=23)
N.A.	0	0	20	20	60	0	0	100% (N= 5)
Total	2	10	19	22	24	17	4	98% (N=98)

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TABLE 24 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY DEGREE OF PROFESSIONAL ORIENTATION: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed To Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Degree of Professional Orientation	(%)	(%)	(%)	(%)	(%)	(%)	(%)
High (Scores of 4 or More)	13	16	13	24	24	9	99% (N=45)
Low (Scores of 3 or Less)	15	32	13	15	15	9	99% (N=53)
Total	14	24	13	19	19	9	98% (N=98)

TABLE 25 DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY PROFESSIONAL-CAREERIST-MISSIONARY SELF-CLASSIFICATION: BOYNTON TECH, 1971

		Favor Plan					
			And Favored In Past				
				Have Actively Supported			
	Opposed To Plan	But Opposed In Past	Have Not Actively Supported	But Not A Member of Organized Group	As A Member of Organized Group	N.A.	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Self-Classification	(%)	(%)	(%)	(%)	(%)	(%)	
Professional	22	16	25	19	13	6	101% (N=32)
Careerist	16	35	12	19	9	9	100% (N=43)
Missionary	0	20	0	10	70	0	100% (N=10)
Professional and Careerist	0	25	0	50	0	25	100% (N= 4)
Careerist and Missionary	0	17	0	33	50	0	100% (N= 6)
N.A.	0	0	0	0	33	67	100% (N= 3)
Total	14	24	13	19	19	9	98% (N=98)

Table 26 shows the relationship between level of professional orientation and orientation toward change controlling for level of awareness of educational issues. As expected, among those faculty classified as having a high level of awareness regarding educational issues, there is a clear difference such that those with a high level of professional orientation are substantially more likely to be classed as strongly innovative and much less likely to be conservative than those with a low level of professional orientation. Faculty classed as having a low level of awareness are not clearly distinguished as to orientation toward change when viewed according to professional orientation.

The relationship between level of professional orientation and receptivity to the Boynton Plan is presented in Table 27. In that table, awareness is again controlled for. Here it can be seen that among those rating high on awareness, a high level of professional orientation is associated with active support of the Boynton Plan, whereas low levels of professionalization are associated with opposition. Moreover, unanticipated in this analysis, an inverse statistically significant relationship between professional orientation and Plan receptivity is found among those with a low level of awareness; i.e., those with lower levels on the awareness measure who attained a high level on the measure of professional orientation are more likely to be opposed to the Plan and less likely to have actively supported the Plan in the past than their more careerist counterparts.

TABLE 26 DISTRIBUTION OF FACULTY BY ORIENTATION TOWARD CHANGE BY LEVEL OF AWARENESS OF EDUCATIONAL ISSUES AT DEGREE OF PROFESSIONAL ORIENTATION: BOYNTON TECH, 1971

Educational Issues Level of Awareness	Level of Professional Orientation	Orientation Toward Change: Strongly Innovative	Mildly Innovative	Neutral	Conservative	N.A.	Total
		(1)	(2)	(3)	(4)	(5)	(6)
		(%)	(%)	(%)	(%)	(%)	(%)
High (Scores of 6 or More)	High (Scores of 4 or More)	43	40	3	13		99% (N=30)
High	Low (3 or Less)	12	40	8	40		100% (N=25)
Low (Scores of 5 or Less)	High	20	47	20	13		100% (N=15)
Low	Low	18	39	14	25	4	100% (N=28)
	Total	24	41	10	23	1	99% (N=98)

TABLE 27 PERCENT DISTRIBUTION OF FACULTY BY RECEPTIVITY TO THE BOYNTON PLAN BY LEVEL OF AWARENESS OF EDUCATIONAL ISSUES AND DEGREE OF PROFESSIONAL ORIENTATION: BOYNTON TECH, 1971

Educational Issues Level of Awareness	Level of Professional Orientation	Actively Supported In Past	Did Not Actively Support In Past	Opposed Plan In Past	Do Not Favor Plan	N.A.	Total
		(1)	(2)	(3)	(4)	(5)	(6)
		(%)	(%)	(%)	(%)	(%)	
High (Scores of 6 or More)	High (Scores of 4 or More)	57	10	17	7	10	101% (N=30)
High	Low (3 or Less)	12	16	28	28	16	100% (N=25)
Low (Scores of 5 or Less)	High	33	20	13	27	7	100% (N=15)
Low	Low	46	11	36	4	4	101% (N=28)
	Total	39	13	24	14	9	99% (N=98)

Chapter IV: Discussion and Summary

Hypotheses: A Summary of Results

The previous chapter outlined results of the data collected in this study particularly with respect to the three hypotheses which guided the investigation. The first hypothesis which proposed that the faculty would on balance represent a resistive position with respect to planned change is not supported. Although this hypothesis was thought to be the most difficult of the three to assess in the limited scope of this research, it appeared that the failure was associated more with a failure in conceptualization than in the weakness of the methods. The lack of developed resistance in the faculty may be associated with the lack of social integration which is thought to be a distinguishing feature of social groups. There is a presumption in our work that the faculty are a distinguishable organizational component of a college community. They are thought to collectively possess the integral properties of structure, of systematic interrelationships, to share values and to be responsive to common demands made on a limited pool of resources, mediated through commensalistic interrelations, a characterization which may be quite erroneous. This lack of organized presence as a college component comes forth as a possibility not considered in the original conceptualization of this research. Other consequences of this conjectured outcome may influence other findings in this study.

A second hypothesis is confirmed in the research. This hypothesis asserts that:

> "The faculty members who recognize the need for organizational change will be more receptive to proposed action or will be more responsive regarding alternative actions which are seen as adaptive and functional (i.e., institution-enhancing) regarding organizational survival, ..."

As reported in the previous chapter, those faculty members who were ranked as strongly innovative were more likely to have supported the Boynton Plan and were less often represented among those opposed to the Plan. The measure of "recognition of need for change" was based upon responses to several current issues in higher education put forth to each faculty member. These results suggest that receptiveness regarding change in the specific and concrete setting of the school

are importantly related to the consciousness of the need for change on a higher level of abstraction. What is intriguing in the analysis at this point is the question of the kind of faculty members who hold such outlooks -- who are the innovative in orientation and why?

When faculty were asked for their thoughts about the effects of the Boynton Plan on their own careers, or on the department of which they were members, little in discernable patterns of response developed. However, when they were asked about the effects of the Plan on students following their graduation from Boynton, the major theme of difference between those judged differently as to orientation toward change seemed to revolve around the idea that the students might become, in the minds of the strongly innovative, "more alert and aware of the world," whereas the conservatives more often thought that the Plan would "make little difference." Neither extreme of the groups on the orientation-toward-change measure showed a larger proportion believing that the students would become more competent or less competent. Moreover, little difference is found on orientation toward change with regard to judgements as to what would become of the faculty: a substantial number of faculty across the range of views of change shared the belief that the Plan would have disturbing effects on the faculty!

The last hypothesis of concern in this study asserts that: "The faculty will be differentiated as to the recognition of the need for organizational change such that those with professional and/or missionary orientation will be more likely to perceive such a need than those with a career orientation."

This hypothesis is on the whole confirmed with respect to the proportions favoring the Plan in the contrast between "professionals" and "careerists," but some reservations are in order since those classed as high in professional orientation are not different from those low on this measure -- ostensibly careerists -- in outlook regarding the Plan. One minor element in the argument in support of the hypothesis is the sizeable component of those low in professional orientation who had been opposed to the Plan in the past but have now changed their position in this respect. The "changers," are difficult to assess as to reasons or intensity of opposition in the past principally because the retrospective nature of our concern would appear to infringe upon the limits of plausibility.

Going less in the direction of discounting the hypothesis are the data in Table 21 which display the self-classification by the "Wilensky categories" and plan receptivity. But here again, the opposition in the past is a much more important part of the careerist's reactions to the Plan than found among professionals.

It is the variable of awareness regarding educational issues which sharply modifies the results and provides an important comment upon this professionalization hypothesis. Our findings demonstrate a strong relationship between level of professionalization with Plan receptivity for those ranking high on the awareness scale and an inverse relationship for low awareness faculty. These findings, along with evidence that professional orientation is clearly associated with a strongly innovative orientation toward change only among those with a high level of awareness, points toward the need to assess that level of sophistication and sensitivity of members of organizations to understand either (1) the role of the balance of professionals vs. careerists in response to change, or (2) the prospects of the successful introduction of significant innovation in the organizational settings.

Professionalization as an Organizational Characteristic

Professionalization in organizations has been conceived of as a change-inducing or a change-facilitating factor because it is indicative of organizational complexity, which is in turn, productive of change and is a force which tends to invite ideas and actions foreign to the subject organization. This phenomenon according to Hage and Aiken, arises in conflict among different occupational specialties. Moreover, Hage, and Hage and Aiken have reported results in studies in a community hospital and in sixteen welfare agencies which are comparable to those in the present study.

In the study of welfare organizations, Hage and Aiken report substantial and significant correlations between a number of measures of professional activity, such as the number of occupational specialties in the organization and the measure of change (number of new programs added during the previous five-year period).

A basic feature of professionalization as it is conceived of by students such as Wilensky, Hage and Aiken is, "....autonomous expertise and adherance to a service ideal in which there is a devotion to the client's interests more than to personal or commercial profit."

Jerold Hage and Michael Aiken, Social Change in Complex Organizations, New York: Random House, 1970, pps. 33 ff.

Jerold Hage, "Organizational Response to Innovation," Unpublished Ph.D. Dissertation, Columbia University, 1963; and Hage and Aiken, Loc. Cit.

Hage and Aiken, op. cit. p. 33.

These writers emphasize the insatiable appetite for knowledge among professionals, pointing out that:

> " .... this acquisition of knowledge leads to the recognition of how little we really know about the world we live in and even our own fields of specialization. It inspires us to greater learning.... An organization that has many varieties of professionally trained persons is likely, therefore, to bear witness continually to these internal pressures toward change."

Moreover, Wilensky has pointed out the critical role played by professionals in information flows, frequently in the context of managerial roles in organizations. In prospect, this is an important point of agreement among these theoretical positions and results of the present study. The significance of professional acceptance and facilitation of change may rest in the differential levels of awareness and sensitivity of those with high levels of professional orientation to extra-organizational pressures. Given our original task of attempting to identify sociological properties of groups which may be associated alternately with thrusts toward adaptive change and toward resistance of change, we may propose that variability in the composition of organizations with regard to the professional-careerist dimension should be studied as a possible indicator of the potential of organizationsfor change and to become acclimated to changing external environments.

Wilensky in summarizing his own investigation of the patterns of intelligence in organizations and its relationship to organizational survival comments on the need for studies of information development in different organizational settings in order to compare organizations as to performance. Wilensky seems to miss, however, the implications of his own findings with regard to the organizational consequences of professionalization; instead, he appears to be preoccupied

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Hage and Aiken, Loc. Cit.

It should be pointed out that the distinction between professional and careerist among members of a group who are all ostensibly professionals -- such as in a college faculty -- has precedent in the Hage study cited above. In that study, medical departments of a hospital were compared as to the proportions of staff who were specialists (professionals) vs. general practitioners (careerists). The difference are of degree, then, and are not absolute differences.

Harold L. Wilensky, Organizational Intelligence, New York: Basic Books, 1967. p. 181.

with managerial intelligence functions. On the other hand, the logic of Wilensky's (as well as Hage's and Aiken's) concern about the way in which organizational composition (i.e., extent of professionalization), bearing on the receptiveness to extra-organizational pressures for change, is borne out in a different level of analysis in this study. Our results indicate that when members of the faculty of a small college of engineering and science are classified on a careerist-professional dimension, those with a professional orientation tend to be more supportive of innovation in general, have a higher level of awareness of extra-organizational issues related to their occupations (as educators) and are more receptive to organizational change in the specific institutional setting where they work than are the careerists. However, it is not until the relationship between degree of professionalization and receptivity to change in the school setting is controlled for level of awareness that we find those rating high on professionalization less likely to have opposed as well as more likely to have actively supported change than those rated lower on the professionalization measure. Having thus separated out those professionals with a low level of awareness of educational issues, we have located a component of the faculty not so much lacking representation in support of the changes as manifesting a substantial proportion opposed to the Plan. We conclude that professionalization without taking into account the way in which levels of knowledge and of opinions regarding the extra-organizational issues and problems become manifest within the institution, provides only partial identification of the factors associated with receptiveness to planned change.

It may be that institutions most in need of organizational renewal are those heavily populated by careerists, are most resistant to change, and whose membership is less aware of external pressures. Institutions in which professionals predominate are going to respond to the organizational environment whereas those in which careerism has been fostered, may be in real danger.

In line with these considerations, the present authors have begun work to further examine the setting in which the Boynton Plan has arisen with regard to some demographic hypotheses which would attempt to focus on the rates of change in the recruitment and a shift in the kind of recruitment and resultant impact on faculty composition with respect to change prone indicators over the previous 15 years. We shall hypothesize that a period of rapid change occurred during the late 1950's and the early 1960's which may have brought about a shift from careerist to professional orientation among the faculty. We have seen some initial evidence of intra-organizational conflict (a harbinger of change) in the early 1960's which ultimately leads to the establishment of the Planning Committee from which the Boynton Plan is brought forth (see Chapter 3). That earlier period may be characterized

as one of the "young turks vs. the old guard," but such a description does not account for the timing of these events. Our theoretical perspective suggests that conflict inducing relations do not arise de novo within the organization but are brought about by external forces: here we hypothesize the demographic factors which unsettle past ways of doing things and open up the period of change which this organization is currently experiencing.

Appendix A

Interview Format

INTERVIEWER: _____

DATE OF INTERVIEW: _____

TIME OF INTERVIEW: _____

PLACE OF INTERVIEW: _____

_____

LENGTH OF TIME OF INTERVIEW: _____

University of Massachusetts/Amherst
Department of Sociology

STUDY OF PLANNED CHANGE AT
BOYNTON TECH

Faculty Base Data Questionnaire

FACULTY RESPONDENT:

Name: _____

Dept: _____

Rank: _____

OFFICE USE ONLY:

Q. NUMBER _____

DEPT CODE _____

FACULTY CODE _____

SOURCE AND ACTIVITY CODE:
(Columns 78-80) 201

I'd like to begin by asking about some routine matters, to make sure that the information we have about the Boynton faculty is correct, and to fill in gaps where we don't have the information.

1. Now, let's see, let me be sure that I have your NAME, DEPARTMENT, and ACADEMIC RANK:

   1a. NAME _____

   1b. DEPT _____

   1c. RANK _____

2. Do you have appointments in more than one department or program?

   ☐ Yes (GO TO Q. 2a) ☐ No (GO TO Q. 3)

   2a. What is (are) this (these) and what position(s) do you hold?

   Second Dept _____

   Position _____

   Third Dept _____

   Position _____

3. In what year were you born? _____

(ENTER THE FOLLOWING BY OBSERVATION)

4. Sex

   ☐ Male

   ☐ Female

5. Race

   ☐ White

   ☐ Black

   ☐ Other race

6. What is your marital status, that is, are you single, married, separated, divorced, or what?

☐ Single (GO TO Q. 7)
☐ Married (GO TO Q. 6a)
☐ Separated (GO TO Q. 6a)
☐ Divorced (GO TO Q. 6a)
☐ Widowed (GO TO Q. 6a)
☐ Other (SPECIFY) _____

_____

(IF OTHER THAN SINGLE)

6a. When were you first married? (YEAR) _____

6b. Have you been married once or more than once?

☐ Once
☐ More than once

7. Now I'd like to ask a question about you yourself -- when you think about the things you do professionally, what is it that you regard as most important to you?

_____

_____

_____

_____

_____

_____

_____

EDUCATIONAL EXPERIENCE

(List most recent experience first)

COLLEGE OR SCHOOL	CITY/STATE	FIELD	DEGREE	DATES OF ATTENDANCE

8. Now I'd like to turn to the matter of your educational experience. First, I'd like to know about the highest degree and diploma you have received and where and when the work was done. Then, I'd like to ask about the formal schooling or training you have received.

(QUESTIONS 8a - 8e ARE TO BE FILLED IN ON TABLE ON OPPOSITE PAGE.)

INCLUDE SCHOOLS WHERE WORK WAS DONE BUT NO DEGREE RECEIVED.

8a. First, what is the highest degree or diploma you have received?

8b. Where did you do the work for that degree or diploma?

8c. When was that? (DATES OF ATTENDANCE)

8d. In what field?

8e. And what happened before that?

(ASK QUESTIONS 8b - 8e UNTIL HIGH SCHOOL IS MENTIONED. THEN PROCEED TO Q. 9.)

9. As an undergraduate, did you have a concentration of courses in any discipline other than those courses required for the degree in your field?

☐ Yes (GO TO Q. 9a) ☐ No (GO TO Q. 10)

9a. What discipline(s)?

_____

_____

9b. Do you today regard those additional courses as important to you?

☐ Yes ☐ No

10. Do you see yourself as having pretty much moved right through to complete your education, or were there some "breaks" along the way -- jobs, the service, or other things?

☐ Moved right through to complete education (GO TO Q. 11)

☐ "Breaks" along the way (GO TO Q. 10a)

Other response (SPECIFY) _____

_____

10a. Can you tell me about that? _____

_____

_____

_____

_____

_____

(IF NOT CLEAR AS TO SIGNIFICANCE OF BREAKS IN EDUCATION, ASK)

10b. Did this then have an important effect upon what you have decided to do?

☐ Yes (GO TO Q. 10c) ☐ No (GO TO Q. 11)

10c. Can you tell me more about that? _____

_____

_____

_____

_____

_____

11. Now I'd like to ask you a few questions about the period in which you were growing up -- questions about things which may have influenced your present career interests.

11a. What is the last grade of school which your father or guardian completed?

- ☐ Less than high school
- ☐ High school
- ☐ College -- less than four years
- ☐ College -- four years
- ☐ Graduate or professional school
- ☐ Trade school, nursing, etc.
- ☐ Don't know
- ☐ Inapplicable

11b. What was your father's (guardian's) occupation when you were growing up, say when you were about age 16? That is,

(1) What kind of work was he doing? (For example, elementary school teacher, paint sprayer, repaired radio sets, grocery checker, civil engineer, farmer, farm hand)

_____

(2) What kind of business or industry was this? (For example, county junior high school, auto assembly plant, radio service, retail supermarket, road construction, farm)

_____

ASK ONLY IF NECESSARY. OTHERWISE, RECORD.

(3) Was he --

☐ an employee of a <u>private</u> company, business, or individual for wages, salary, or commissions?

☐ a <u>government</u> employee (Federal, state, county, or local government)?

☐ <u>self-employed</u> in his own business, professional practice, or firm?

☐ working <u>without pay</u> in his family's business or firm?

11c. What is the last grade of school which your mother completed?

☐ Less than high school

☐ High school

☐ College -- less than four years

☐ College -- four years

☐ Graduate or professional school

☐ Trade school, nursing, etc.

☐ Don't know

☐ Inapplicable

11d. Where did you live then? (CITY AND STATE; IF OUTSIDE U.S., GET AS SPECIFIC INFORMATION AS POSSIBLE)

_____

11e. In what kind of place did you live while you were growing up (age 16), was that

- ☐ In a large city (100,000 or more population)?
- ☐ In a suburb of a large city?
- ☐ In a middle-sized city (25,000 - 100,000) but not in a suburb of a large city?
- ☐ In a small city or town (under 25,000)?
- ☐ Open country (but not on a farm)?
- ☐ On a farm?

11f. Do you recall what you expected at the time -- when you were 16 -- what you planned to do; that is, does what you are doing here at Boynton Tech fit in with what you had expected or is it not what you had expected?

- ☐ What I had expected (GO TO Q. 12)
- ☐ Not what I had expected (GO TO Q. 11g)
- ☐ Don't remember; don't know (GO TO Q. 12)

(ASK ONLY IF ANSWER TO 11f IS "NOT WHAT I HAD EXPECTED")

11g. Could you tell me why this is not what you had expected?

(MAKE SURE RESPONSE INDICATES WHETHER PRESENT CAREER IS MORE OR LESS THAN WHAT WAS EXPECTED. IF NOT, PROBE.)

Now I would like to ask you some questions about your career, the jobs and positions you have held.

12. When and how did you decide upon (STATE DISCIPLINE)?

13. When and how did you decide upon teaching?

14. Is there any reason why you decided to teach at a school like Boynton Tech as opposed to a general college or university?

CAREER HISTORY

TITLE OR POSITION	NAME OF INSTITUTION OR FIRM	CITY AND STATE	DATES FROM	DATES TO	SATISFYING AND REWARDING PERIOD MOST	SATISFYING AND REWARDING PERIOD LEAST

THE ANSWERS TO THE FOLLOWING QUESTIONS ARE TO BE RECORDED ON THE TABLE ON THE OPPOSITE PAGE.

15. What do you consider to be the first <u>real</u> position you held?

15a. At what school or firm was that?

15b. Where was that?

15c. When did that begin?

15d. Where did you go next, that is what was the next position you held?

REPEAT QUESTIONS 15a - 15d UNTIL PRESENT POSITION AT BOYNTON TECH IS REACHED.

IF THERE ARE TIME LAPSES BETWEEN EDUCATIONAL EXPERIENCES AND POSITIONS, ASK APPROPRIATE QUESTIONS ABOUT THESE GAPS. TRY TO OBTAIN AS COMPLETE A PROFESSIONAL HISTORY AS POSSIBLE.
USE SPACE BELOW TO RECORD ANY ADDITIONAL RESPONSES.

IF POSITION AT BOYNTON TECH IS ONLY POSITION AND IF RESPONDENT HAS BEEN AT BOYNTON TECH FOR LESS THAN 2 YEARS, GO TO QUESTION 19. IF NOT, ASK QUESTIONS 16 - 18.

16. Of all the positions you have held, which of these do you see as the most satisfying and rewarding? (IF CURRENT POSITION IS THE ONLY POSITION, ASK WHAT WAS THE MOST REWARDING PERIOD.)

ENTER INFORMATION ON TABLE ON PAGE 11a OR

☐ All (ASK Q. 16a. THEN GO TO Q. 19)

☐ None

☐ Don't know

16a. Why was that? (PROBE)
(IF ONLY ECONOMIC REASONS GIVEN, PROBE. Were there reasons other than the money?)

_____

_____

_____

_____

_____

17. Which of the positions that you have held do you see as the least satisfying and rewarding? (IF CURRENT POSITION IS THE ONLY POSITION, ASK WHAT WAS THE LEAST REWARDING PERIOD.)

ENTER INFORMATION ON TABLE ON PAGE 11a OR

☐ All (ASK Q. 17a. THEN GO TO Q. 19)

☐ None

☐ Don't know

17a. What made this position or period unsatisfactory? (PROBE)

18. (IF PRESENT POSITION IS NOT MOST SATISFYING AND REWARDING, ASK)

What happened following that satisfactory period (position) -- i.e., can you talk about the ensuing period(s) as to what seemed to develop that made things less satisfactory?

19. What kinds of things would improve your current state of affairs?

20. I'd like to turn to a matter having to do with the changes in higher education today. This seems to be an area of controversy and people seem to differ in their views.

I'm going to name some issues that are often discussed and I'd like you to tell me about your reactions to them:

(1) First of all, what about the changing role of higher education in the U.S.? (For example, the development of mass education, the question of relevance, etc.)

(1a) In your opinion what can or should be done about this matter? What do you see as the possibilities?
(changing role of higher education in the U.S.)

(2) What about the question concerning the place of engineering, scientific, and technical education in American society?

(2a) What do you think can or should be done about this matter? (place of engineering, scientific, and technical education in American society)

(3) How do you feel about the role of the humanities and social sciences in the training of engineers and technicians?

(3a) What do you see as the possibilities concerning this issue? (the role of the humanities and social sciences in the training of engineers and technicians)

(4) Can you anticipate other issues which these examples seem to bring to mind about which you have comments?

(4a) ASK APPROPRIATE QUESTION DEALING WITH THE ISSUE(S) MENTIONED. WHAT ARE THE POSSIBILITIES, WHAT SHOULD BE DONE, ETC.?

ACADEMIC ACTIVITIES

ACTIVITY	RANKING	TIME			MOST IMPORTANT
		TOO MUCH	ADEQUATE	TOO LITTLE	
A. Teaching - undergraduate courses					
B. Teaching - graduate courses					
C. Consulting with students, including thesis direction					
D. Research activity, including supervising of student assistants and consultation and collaboration with other faculty					
E. Private non-academic consulting					
F. Administrative work, i.e., administrative and committee work within Boynton Tech					
G. Other (SPECIFY)					

Now I'd like to turn to your current position here at Boynton Tech.

21. Will you tell me about your work at Boynton Tech? Here is a card that lists several kinds of activities. (HAND RESPONDENT CARD #1). How would you rank these activities from the activity in which you invest the most time down to the activity in which you invest the least, or none?

    IF RESPONDENT EXPRESSES CONCERN ABOUT WHAT PERIOD OF TIME THE QUESTION REFERS TO, TIE THE ACTIVITIES DOWN TO 1970-1971, UNLESS RESPONDENT SEES 1971-1972 AS SO DIFFERENT AS TO BE SIGNIFICANT. RECORD CHANGES IN DISTRIBUTION.

    ENTER RESPONSES ON TABLE ON OPPOSITE PAGE.
    ACTIVITIES IN WHICH THE RESPONDENT SPENDS THE MOST TIME RECEIVE THE LOWER NUMBERS. (EXAMPLE: 1 = ACTIVITY IN WHICH MOST TIME IS SPENT)
    IF RESPONDENT CANNOT DECIDE BETWEEN TWO CATEGORIES, ALLOW A TIE. GIVE THESE TWO CATEGORIES THE SAME NUMBER IN THE RANKING.

22. Considering all of the activities listed on Card #1, which of these activities do you regard as most important?
    (RECORD RESPONSE IN LAST COLUMN ON TABLE ON OPPOSITE PAGE.)

23. Thinking about each activity individually, could you please tell me whether you feel that you are obligated to spend too much time in the activity, an adequate amount of time with the activity, or too little time with the activity?

    READ LIST OF ACTIVITIES FROM SIDE OF TABLE ON OPPOSITE PAGE. PUT A CROSS IN THE APPROPRIATE COLUMN BESIDE THE NAME OF EACH ACTIVITY.

24. Why do you feel the way you do about the amount of time involved in the activity that you have ranked first, i.e., (NAME ACTIVITY)?

    _____

    _____

    _____

    _____

    _____

IF THE ACTIVITY IN WHICH THE MOST TIME IS SPENT IS THE SAME AS THE ACTIVITY SEEN AS MOST IMPORTANT, GO TO Q. 26.
IF THESE TWO ACTIVITIES ARE DIFFERENT, ASK Q. 25.

25. What about the amount of time spent on the activity that you regard as most important? Can you tell me about that?

_____

_____

_____

_____

_____

IF NOT PREVIOUSLY MENTIONED,
26. Do students come to you to discuss personal, non-academic problems?

☐ Yes (GO TO Q. 26a) ☐ No (GO TO Q. 26b)

26a. (IF "YES"), How do you respond, that is what do you try to do in these situations?

_____

_____

_____

_____

(GO TO Q. 27)

26b. (IF "NO"), What would you do if students did come to you with personal problems, that is how would you respond?

_____

_____

_____

_____

27. Overall, do you favor the changes proposed in the Boynton Plan?

☐ Yes

☐ No

☐ Don't know/No answer (TRY TO AVOID THIS CATEGORY)

27a. How strongly do you feel about the matter?

☐ Very strong

☐ Moderately strong

27b. Why do you feel that way -- that is can you tell me why you (support, oppose, or are uncertain about) the proposed change?

_____

_____

_____

_____

_____

_____

_____

(PROBE) Can you tell me a little more about that?

_____

_____

_____

_____

_____

(PAGES 23, 24, and 25 WERE PINK ON THE ORIGINAL INTERVIEW)

QUESTIONS ON THE PINK SHEETS ARE ONLY FOR THOSE RESPONDENTS WHO INDICATED IN QUESTION 27 THAT THEY ARE <u>FOR</u> THE BOYNTON PLAN.

28. Have you always been in favor of the Boynton Plan?

☐ Yes (GO TO Q. 31) ☐ No (GO TO Q. 29)

29. (IF "NO" TO Q. 28) Prior to this year, have you taken any action in opposition to the plan? For example, activities such as voting against the Boynton Plan, writing the college president, etc.?

☐ Yes (GO TO Q. 29a) ☐ No (GO TO Q. 30)

29a. Can you tell me about that? That is, what steps or actions have you taken?

_____

_____

_____

_____

_____

_____

30. What factors caused you to change your stand toward the Boynton Plan?

_____

_____

_____

_____

_____

_____

_____

(GO TO Q. 32)

31. (IF "YES" TO Q. 28) In the past, have you done anything or acted in a way to express support for the changes called for in the plan?

☐ Yes (GO TO Q. 31a) ☐ No (GO TO Q. 32)

31a. Can you tell me about that? What actions have you taken in the past? For example, activities such as voting for the Boynton Plan, writing to the college president, etc.

_____

_____

_____

_____

_____

_____

32. What about at the present time, are you active in trying to support the objectives of the Boynton Plan?

☐ Yes (GO TO Q. 32a) ☐ No (GO TO Q. 38)

32a. What activities or assignments do you have which go along this line?

_____

_____

_____

_____

_____

_____

32b. Are you doing these things pretty much because you are obliges to or is this something you would like to do anyway?

☐ obliged to

☐ do anyway

other (SPECIFY) _____

_____

_____

_____

GO TO QUESTION 38 WHICH IS THE FIRST QUESTION ON THE NEXT WHITE SHEET.

(PAGES 26 and 27 WERE GREEN ON THE ORIGINAL INTERVIEW)

QUESTIONS ON THE GREEN SHEETS ARE ONLY FOR THOSE RESPONDENTS WHO INDICATED IN QUESTION 27 THAT THEY ARE AGAINST THE BOYNTON PLAN.

33. Have you always been opposed to the Boynton Plan?

☐ Yes (GO TO Q. 36) ☐ No (GO TO Q. 34)

34. (IF "NO" TO Q. 33) Prior to this year, have you done anything or acted in a way to express support for the changes called for in the Boynton Plan?

☐ Yes (GO TO Q. 34a) ☐ No (GO TO Q. 35)

34a. Can you tell me about that? That is, what steps or actions have you taken?

_____

_____

_____

_____

_____

_____

35. What factors caused you to change your stand toward the Boynton Plan?

_____

_____

_____

_____

_____

_____

(GO TO Q. 37)

36. (IF "YES" TO Q. 33) Prior to this year, have you taken any <u>action</u> in opposition to the plan? For example, activities such as voting against the Plan, writing the college president, and the like.

☐ Yes (GO TO Q. 36a) ☐ No (GO TO Q. 37)

36a. Can you tell me about that? That is, what steps or actions have you taken?

_____

_____

_____

_____

_____

_____

37. At present, are you doing anything to express your opposition to the plan?

☐ Yes (GO TO Q. 37a) ☐ No (GO TO Q. 38)

37a. Can you tell me what it is that you are doing?

_____

_____

_____

_____

_____

_____

38. Different people have different ideas about the sources which stimulated the proposal of the Boynton Plan. How do you account for the changes taking place at Boynton Tech? That is, where do you see the impetus for changing the existing program coming from?

☐ I can't, I just don't know (GO TO Q. 41)

RECORD ALL OTHER RESPONSES

(PROBE) Can you tell me more about that?

IF BOTH INTERNAL AND EXTERNAL PRESSURES ARE MENTIONED, GO TO Q. 41.
IF INTERNAL PRESSURES NOT MENTIONED, GO TO Q. 40.
IF EXTERNAL PRESSURES NOT MENTIONED, GO TO Q. 39.

39. (IF EXTERNAL PRESSURES NOT MENTIONED, ASK) Do you see outside sources of change as important? That is, changes going on outside Boynton Tech? (Examples: changing values, youth culture, changing demands for technicians, etc.)

☐ Yes (GO TO Q. 39a) ☐ No (GO TO Q. 41)

39a. Can you tell me about that?

_____

_____

_____

_____

_____

_____

40. (IF INTERNAL PRESSURES NOT MENTIONED, ASK) Do you see internal sources of change as important? (Examples: problems in attracting students, the administration taking it as a cause, or in-breeding in the faculty)

☐ Yes (GO TO Q. 40a) ☐ No (GO TO Q. 41)

40a. Can you tell me about that?

_____

_____

_____

_____

_____

_____

41. Would you say that external or internal sources of change were more important or would you say that they were about the same?

- ☐ Internal
- ☐ External
- ☐ About the same
- ☐ Don't know or not clear

42. Now I'd like to ask about how you see the effects of the Boynton Plan as carried through in several areas that may be important to you having to do with the school and with your own career.

Considered altogether then, what do you see as the effects of the Boynton Plan as carried through in the next two or three years, or in the longer run on:

(1) your career

How do you think the Boynton Plan will effect
(2) the postgraduate experiences of Boynton Tech students?

What about the effects of the Boynton Plan on
(3) your department?

How do you think the plan will effect
(4) the faculty as a whole?

43. Suppose you were offered an opportunity to take a position which would clearly provide you with a substantial improvement in your professional situation, but this opportunity would require that you move to another part of the country. Would you accept such a position?

☐ Yes (GO TO Q. 44) ☐ No (GO TO Q. 43a)

☐ Uncertain (GO TO Q. 43a)

43a. Why is that?

_____

_____

_____

_____

_____

44. Now I'd like to ask you a question concerning the operation of Boynton Tech. Here is a card that lists 5 different categories of influence. (HAND RESPONDENT CARD #2) In general, how much say or influence do you feel each of the following individuals or groups has on what goes on here at Boynton Tech?

(READ ITEMS FROM SIDE OF CHART. RECORD RESPONSES ON CHART)

	INFLUENCE				
	LITTLE OR NO	SOME	QUITE A BIT	A GREAT DEAL OF	A VERY GREAT DEAL OF
A. the board of trustees					
B. the President of Boynton Tech					
C. the Administrative Council					
D. the faculty as a whole					
E. the student body					
F. your department head					
G. the alumni					
H. you yourself					

45. Members of college and university faculties have been described as falling into one of the following three categories:

1) those who are primarily oriented to their particular discipline and to their fellow professionals beyond those in their immediate institutions

2) those who are primarily oriented toward the institutions of higher learning which employ them and who make their major contributions to education by serving the aims of the particular institutions of which they are a part

3) those who are primarily oriented to the need for great change in higher education and who are vigorous in their pursuit of such change

HAND RESPONDENT CARD #3.

While no one fits any of these categories exactly, which of these best describes your own orientation?

☐ Category 1 (GO TO Q. 46)

☐ Category 2 (GO TO Q. 46)

☐ Category 3 (GO TO Q. 46)

☐ None (GO TO Q. 45a)

45a. Thinking of the characteristics in these categories and recognizing the fact that you don't fit into any one of these categories, how would you characterize your own orientation?

_____

_____

_____

_____

_____

46. What about your professional plans for the next 5 or 10 years? Do you have anything definite in mind or is there anything in particular that you would like to do?

PROBE. ALSO, USE THIS OPPORTUNITY TO CLEAR UP ANY POINTS NOT UNDERSTOOD IN TEXT OF INTERVIEW.

INTERVIEWER IMPRESSIONS. TO BE FILLED OUT AS SOON AS THE INTERVIEW IS OVER.

INDICATE COOPERATIVENESS OF RESPONDENT.

Appendix B

Code Format

CODES FOR CLOSE-ENDED QUESTIONS - FACULTY INTERVIEWS

CARD #1

COLUMNS	DESCRIPTION
	COVER SHEET
1-3	QUESTIONNAIRE NUMBER found in box in lower right-hand corner of cover sheet
4&5	DEPARTMENT CODE found below questionnaire number
6&7	FACULTY CODE found below department code
8	INTERVIEWER found in box in upper right-hand corner 1- GS (Gordon Sutton) 2- ML (Mike Lewis) 3- RJK (Rita Kirshstein) 4- DT (Dave Todd)
(9-12)	DATE OF INTERVIEW found below interviewer
9&10	MONTH Code month in a two digit numeral (Sept = 09, Oct = 10, etc.)
11&12	DAY Code day in a two digit numeral (Precede single digit days with a "0."
13-15	LENGTH OF TIME OF INTERVIEW Code the number of minutes. (Convert hours into minutes) Precede two digit numbers with a "0." 999 - DK/NA

COLUMNS	DESCRIPTION
	PAGE 1
16	Q. 1c - RANK 1- professor 2- associate professor 3- assistant professor 4- instructor 5- lecturer 6- affiliate status 7- visiting status 8- other 9- DK/NA
17	Q. 2 - Do you have appointments in more than one department or program? 1- Yes 2- No (Put "0's" in Columns 18-23.) 9- DK/NA
18&19	Q. 2a - SECOND DEPARTMENT OF PROGRAM 00- no second appointment 01- chemical engineering 02- chemistry 03- civil engineering 04- computer science 05- economics, government, business 06- electrical engineering 07- english 08- history and modern languages 09- library 10- management engineering 11- mathematics 12- mechanical engineering 13- military science 14- physical education and athletics 15- physics 16- non-departmental 17- environmental systems study program 18- biomedical engineering 19- nuclear reaction facility 20- audio-visual 21- interdisciplinary affairs 22- alden labs 23- society of industrial management 99- DK/NA

COLUMNS	DESCRIPTION
20	Q. 2a - SECOND POSITION 0- no second position 1- professor 2- associate professor 3- assistant professor 4- instructor 5- lecturer 6- affiliate status 7- visiting status 8- other 9- DK/NA
21&22	Q. 2a - THIRD DEPARTMENT OR PROGRAM See codes for Columns 18&19.
23	Q. 2a - THIRD POSITION See codes for Column 20.
24&25	Q. 3 - In what year were you born? Code last two digits of date of birth. 99- DK/NA
26	Q. 4 - SEX 1- Male 2- Female
27	Q. 4 - RACE 1- White 2- Black 3- Other
	PAGE 2
28	Q. 6 - What is your marital status? 1- single (Code "0's" in Columns 29-31.) 2- married 3- separated 4- divorced 5- widowed 6- other 9- DK/NA
29&30	Q. 6a - When were you first married? 00- single 99- DK/NA All others - Code last two digits of year married.

COLUMNS	DESCRIPTION
31	Q. 6b - Have you been married once or more than once? 0- single 1- once 2- more than once 9- DK/NA
	PAGE 4
32&33	Q. 8a - What is the highest degree or diploma you have received? (Recorded on p. 3a) 01- M.A. 02- Ph.D. 03- S.M. 04- Sc.D. 05- M.S. 06- M.Sc. 07- M.R.P. 08- A.M. 09- M.B.A. 10- M.S.E.E. 11- M.F.A. 12- M.A.T. 13- M.S.L.S. 14- M.Ed. 15- M.E.S. 16- Juris Doctor 17- E.D.M. 20- degree in progress - Ph.D. 30- B.A. 31- B.S. 32- Honorary doctoral 99- DK/NA
34-36	Q. 8b - Where did you do the work for that degree or diploma? (SCHOOL) 001- Amherst College 002- Augsberg College 003- American International College 010- Baroda College 011- Bates College 012- Becker Jr. College 013- Benares Hindu 014- Boston University 015- Brooklyn College

COLUMNS	DESCRIPTION
	Q. 8b (continued) 016- Brooklyn Polytech 017- Brown University 018- Bowdoin College - C.I.T. (California Institute of Technology 021- Carnegie Melon 022- Case Western Reserve 023- Clark University 024- Colby 025- Columbia University 026- Cooper Union 027- Cornell 030- Dartmouth 031- Drexel Institute 040- Emerson College 050- Gymnasium (Germany) 060- Hamilton College 061- Harvard 062- Holy Cross 070- Indian Institute of Science 071- Iona College 072- Iowa State University 080- Lafayette College 081- Lehigh University 090- Manhattan College 091- M.I.T. 092- Massachusetts Agricultural College 093- Michigan State 094- Middlebury 100- National Taiwan University 101- Naval Postgraduate School 102- Nebraska State Teachers College 103- New England Conservatory of Music 104- North Carolina State University 105- Northeastern 106- Northwestern 107- Notre Dame 110- Oberlin 111- Ohio State University 120- Pennsylvania State 121- Polytechnic Institute of Brooklyn 122 - Princeton 130- Queens College (C.U.N.Y.) 131- Queens University (Canada) 140- Rutgers 150- Springfield College 151- State of New York Maritime College

COLUMNS	DESCRIPTION
	Q. 8b (continued) 152- State Teachers College (Mass.) 153- Stevens Institute of Technology 154- Susquehanna University 155- Swiss Institute of Technology 156- Syracuse University 157- Swathmore 158- St. Louis University 160- Tatung University (China) 161- Technological Institute (Germany) 162- Tufts 170- Union College 171- University of Alabama 172- University of Baghdad 173- University of California, Berkeley 174- University of Cambridge 175- University of Chicago 176- University of Colorado 177- University of Connecticut 178- University of Illinois 179- University of Leicester 180- University of Maine 181- University of Massachusetts 182- University of Michigan 183- University of Milan 184- University of New Hampshire 185- University of North Carolina 186- University of North Dakota 187- University of Pennsylvania 188- University of Rhode Island 189- University of Rochester 190- University of Vermont 191- University of Wisconsin 192- University of Wyoming 210- Watertown 211- Wharton 212- William and Mary 213- Williams College 214- Worcester Polytechnic Institute 220- Yale
37	Q. 8b - Region of school where degree received 4- N. E. 5- North Central 6- South 7- West 8- non-U.S. 9- DK/NA

COLUMNS	DESCRIPTION
38&39	Q. 8d - In What field? 10- BUSINESS 11- accounting 12- finance 13- marketing 14- public relations 15- business administration 17- systems science 18- nuclear engineering 19- materials engineering 20- ENGINEERING 21- biomedical engineering 22- chemical engineering 23- city and regional planning 24- civil engineering 25- computers 26- digital and control systems 27- electrical engineering 28- electronics 29- engineering physics 30- environmental engineering 31- industrial engineering, industrial arts 32- marine engineering 33- mechanical engineering 34- mechanics - design 35- sanitary engineering 36- structural engineering 37- structures 38- transportation 39- urban and regional theory 40- HUMANITIES 41- American Literature 42- comparative literature 43- english 44- literary criticism 45- playwriting 46- American civilization, American history American social and intellectual history 47- history 48- history of science and technology 49- modern European history 50- French 51- German literature 52- Latin 53- modern languages 54- education 55- education administration 56- guidance 57- philosophy

COLUMNS	DESCRIPTION
	Q. 8d (continued) 58- organ 59- library science 60- PHYSICAL SCIENCE 61- applied physics 62- biology 63- chemistry 64- communications 65- fluid mechanics 66- geography 67- geology 68- inorganic chemistry 69- material science 70- mathematics 71- metallurgy 72- meterology 73- mineralogy 74- nuclear physics 75- optics 76- organic chemistry 77- physical chemistry 78- physics 79- chemistry and physics 80- SOCIAL SCIENCE 81- economics 82- international relations 83- political science 84- psychology 85- sociology 87- law 88- physical education, athletics recreation 89- interdisciplinary 90- languages 91- other 97- military science 98- music 99- DK/NA
(40-43)	Q. 8c - When was that?
40&41	Code last digits of date when work was begun on degree. 99- DK/NA
42&43	Code last two digits of date when work was completed. 98- in progress 99- DK/NA

COLUMNS	DESCRIPTION
44&45	DEGREE BEFORE HIGHEST DEGREE 00- Only one degree (Code "0's" in Columns 46-47.) 01- M.A. 02- Ph.D. 03- S.M. 04- Sc.D. 05- M.S. 06- M.Sc. 07- M.R.P. 08- A.M. 09- M.B.A. 10- M.S.E.E. 11- M.F.A. 12- M.A.T. 13- M.S.L.S. 14- M.Ed. 15- M.E.S. 16- Juris Doctor 30- B.A. 31- B.S. 99- DK/NA
46-48	SCHOOL See codes for Columns 34-36.
49	REGION OF SCHOOL WHERE DEGREE RECEIVED 4- NE 5- North Central 6- South 7- West 8- Non-U.S. 9- DK/NA
50&51	FIELD See codes for Columns 38&39.
(52-55)	DATES OF ATTENDANCE
52&53	Code last two digits of date when work was begun on degree.
54&55	Code last two digits of date when work was completed. 98- in progress 99- DK/NA

COLUMNS	DESCRIPTION
56&57	EARLIER DEGREE 00- Only two degrees (Code "0's" in Columns 58-67.) 01- M.A. 02- Ph.D. 03- S.M. 04- Sc.D. 05- M.S. 06- M.Sc. 07- M.R.P. 08- A.M. 09- M.B.A. 10- M.S.E.E. 11- M.F.A. 12- M.A.T. 13- M.S.L.S. 14- M.Ed. 15- M.E.S. 16- Juris Doctor 17- E.D.M. 30- B.A. 31- B.S. 32- A.B. 99- DK/NA
58-60	SCHOOL See codes for Columns 34-36.
61	REGION OF SCHOOL WHERE DEGREE RECEIVED 1-4- NE 5- North Central 6- South 7- West 8- non-U.S. 9- DK/NA
62&63	FIELD See codes for columns 38&39.
(64-67)	DATES OF ATTENDANCE
64&65	Code last two digits of date when work was begun on degree.
66&67	Code last two digits of date when work was completed. 98- in progress 99- DK/Na

COLUMNS	DESCRIPTION
	Q. 9 - As an undergraduate, did you have a concentration of courses in any discipline other than those courses required for the degree in your field? 1- Yes 2- No (Code "0's" in Columns 69-73) 9- DK/NA
69&70	Q. 9a - What discipline? 00- no concentration See codes for Columns 38&39
71&72	SECOND DISCIPLINE 00- no second discipline See codes for Columns 38&39.
73	Q. 9b - Do you today regard these additional courses as important to you? 0- no additional courses 1- Yes 2- No 3- Yes & No 9- Dk/Na
	PAGE 5
74	Q. 10 - Do you see yourself as having pretty much moved right through to complete your education, or were there some "breaks" along the way? 1- Moved right through to complete education (Code "0" in Column 75) 2- "Breaks" along the way 3- Other 9- DK/NA
75	Q. 11 - Did this then (BREAKS) have an important effect upon what you have decided to do? 0- no breaks 1- Yes 2- No 9- DK/NA
76	SKIP
77	CARD SERIAL NUMBER Code "1."

COLUMNS	DESCRIPTION
78	SOURCE Code "2" for every card. (Indicates that information is from faculty interview.)
79&80	STUDY AND ACTIVITY Code "01" for every card. (Indicates that information is for Boynton Tech faculty, summer and fall of 1971.

CARD #2

COLUMNS	DESCRIPTION
1-3	QUESTIONNAIRE NUMBER Same as Columns 1-3 on Card #1.
	PAGE 6
4	Q. 11a - What is the last grade of school which your father or guardian completed? 1- less than high school 2- high school 3- college - less than 4 years 4- college - 4 years 5- graduate or professional school 6- trade school, nursing, etc. 9- DK/NA
5&6	Q. 11b - What was your father's occupation when you were growing up? 01- professional, technical, and kindred workers 02- farmers and farm managers 03- managers, officials, and proprietors, except farm 04- clerical and kindred workers 05- sales workers 06- craftsmen, foremen, and kindred workers 07- operatives and kindred workers 08- private household workers 09- service workers, except private household 10- farm laborers and foremen 11- laborers, except farm and mine 99- DK/NA (The above categories correspond to those used by the U.S. Census Bureau.)
7	Does father's occupation indicate an engineering background? 1- Yes 2- No 9- DK/NA
8	Does father's occupation indicate a science background? 1- Yes 2- No 9- DK/NA

COLUMNS	DESCRIPTION
9	Does father's occupation indicate a teaching background? 1- Yes 2- No 9- DK/NA
	PAGE 7
10	Q. 11c - What is the last grade of school which your mother completed? 1- less than high school 2- high school 3- college - less than 4 years 4- college - 4 years 5- graduate or professional school 6- trade school, nursing, etc. 9- DK/NA
	PAGE 8
11	Q. 11d - Where did you live then? 1-4 NE 5- North Central 6- South 7- West 8- non-U.S. 9- DK/NA
12	Q. 11e - In what kind of place didyou live while you were growing up? 1- in a large city (100,000 or more population) 2- in a suburb of a large city 3- in a middle-sized city (25,000 - 100,000) but not in a suburb of a large city 4- in a small city or town (under 25,000) 5- open country (but not on a farm) 6- on a farm 9- DK/NA
13	Q. 11f - Do you recall what you expected at the time....; that is, does what you are doing here at Boynton Tech fit in with what you had expected or is it not what you had expected? 1- what I had expected 2- not what I had expected 3- both 1 and 2 7- uncertain at time 8- don't remember 9- DK/NA

COLUMNS	DESCRIPTION
	PAGE 20
(14-21)	Q. 21 - Ranking activities from activity in which most time is spent to activity in which least time is spent. EACH ACTIVITY IS GIVEN A COLUMN. CODE THE RANK GIVEN BY THE RESPONDENT FOR EACH ACTIVITY. CODE "9" IF NO TIME AT ALL IS SPENT IN ACTIVITY. INSTRUCTION FOR TIES. IF RESPONDENT SPENDS AN EQUAL AMOUNT OF TIME IN TWO ACTIVITIES, GIVE THESE ACTIVITIES THE SAME SCORE. THE NEXT ACTIVITY IN THE RANKING WILL RECEIVE A RANK THAT IS 2 HIGHER THAN THE PREVIOUS SCORE. FOR EXAMPLE, IF THERE IS A TIE FOR ACTIVITIES IN WHICH THE TIME SPENT RANKS SECOND, THE NEXT ACTIVITY RATED WILL RECEIVE A SCORE OF "4." (1,2,2,4).
14	TEACHING - UNDERGRADUATE COURSES
15	TEACHING - GRADUATE COURSES
16	CONSULTING WITH STUDENTS, INCLUDING THESIS DIRECTION
17	RESEARCH ACTIVITY, INCLUDING SUPERVISING OF STUDENT ASSISTANTS AND CONSULTATION AND COLLABORATION WITH OTHER FACULTY
18	PRIVATE, NON-ACADEMIC CONSULTING
19	ADMINISTRATIVE WORK
20	OTHER (SEE QUESTIONNAIRE FOR SPECIFICS)
21	OTHER
22	Q. 22 - Considering all of the activities listed on Card #1, which of these activities do you regard as most important? IF TWO ACTIVITIES ARE LISTED, CODE SECOND ACTIVITY IN COLUMN 23. 1- teaching - undergraduate courses 2- teaching - graduate courses 3- consulting with students, including thesis direction (CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 22 (continued) 4- research activity, including supervising of student assistants and consultation and collaboration with other faculty 5- private non-academic consulting 6- administrative work 7- other 8- more than one 9- DK/NA
23	SECOND ACTIVITY RANKED MOST IMPORTANT 0- no second activity 1- teaching - undergraduate courses 2- teaching - graduate courses 3- consulting with students, including thesis direction 4- research activity, including supervising of student assistants and consultation and collaboration with other faculty 5- private non-academic consulting 6- administrative work 7- other 8- more than one 9- DK/NA
(24-31)	Q. 23 - Thinking about each activity individually, could you please tell me whether you feel you are obligated to spend too much time in the activity, an adequate amount of time with the activity, or too little time with the activity? EACH ACTIVITY IS GIVEN A COLUMN. USE THE FOLLOWING CODE: 1- too much 2- adequate 3- too little 9- DK/NA
24	TEACHING - UNDERGRADUATE COURSES
25	TEACHING - GRADUATE COURSES
26	CONSULTING WITH STUDENTS, INCLUDING THESIS DIRECTION
27	RESEARCH ACTIVITY, INCLUDING SUPERVISING OF STUDENT ASSISTANTS AND CONSULTATION AND COLLABORATION WITH OTHER FACULTY

COLUMNS	DESCRIPTION
	Q. 23 (continued)
28	PRIVATE, NON-ACADEMIC CONSULTING
29	ADMINISTRATIVE WORK
30	OTHER (SEE QUESTIONNAIRE FOR SPECIFICS)
31	OTHER
	PAGE 21
32	Q. 26 - Do students come to you to discuss personal, non-academic problems? 1- Yes 2- No 9- DK/NA
	PAGE 22
33	Q. 27 - Overall do you favor the changes proposed in the Boynton Plan? 1- Yes (Code "7" in Columns 40-43) 2- No (Code "8" in Columns 35-39) 3- Yes & No 4- Yes, no category checked, but interviewer used pink sheets on questionnaire 5- No, no category checked, but interviewer used green sheets on questionnaire 9- DK/NA
34	Q. 27a - How strongly do you feel about the matter? 1- Very strong, quite strong 2- Moderately strong, fairly strong 3- Not too strong 4- It varies 5- Ambivalent 6- Other 9- DK/NA
	PINK SHEETS
	PAGE 23
35	Q. 28 - Have you always been in favor of the Boynton Plan? 1- Yes (Code "0" in Column 36)

COLUMNS	DESCRIPTION
	Q. 28 (continued) 2- No (Code "o" in Column 37) 8- Against plan 9- DK/NA
36	Q. 29 - Prior to this year, have you taken any opposition to the plan? 0- Always been in favor of plan 1- Yes 2- No 8- Against plan 9- DK/NA
	PAGE 24
37	Q. 31 - In the past, have you done anything or acted in a way to express support for the plan? 0- Was against the plan in past 1- Yes 2- No 8- Against plan 9- DK/NA
38	Q. 32 - What about at the present time, are you active in trying to support the objectives of the Boynton Plan? 1- Yes 2- No (Code "0" in Column 39) 8- Against plan 9- DK/NA
	PAGE 25
39	Q. 32b - Are you doing these things pretty much because you are obliged to or is this something you would like to do anyway? 0- not active in supporting Boynton Plan 1- obliged to 2- do anyway 3- both 1&2 4- other 8- against plan 9- DK/NA

COLUMNS	DESCRIPTION
	GREEN SHEETS
	PAGE 26
40	Q. 33 - Have you always been opposed to the Boynton Plan? 1- Yes (Code "0" in Column 41) 2- No (Code "0" in Column 42) 7- for plan 9- DK/NA
41	Q. 34 - Prior to this year, have you done anything or acted in a way to express support for the changes called for in the Boynton Plan? 0- always opposed 1- Yes 2- No 7- for plan 9- DK/NA
	PAGE 27
42	Q. 36 - Prior to this year, have you taken any action in opposition to the plan? 0- was in favor of plan in past 1- Yes 2- No 7- for plan 9- DK/NA
43	Q. 37 - What about at the present time, are you active in trying to oppose the Boynton Plan? 1- Yes 2- No 7- for plan 9- DK/NA
	PAGE 29
	NOTE: IF EITHER Q. 39 or Q. 40 IS NOT ANSWERED, THIS MEANS THAT THIS SOURCE OF CHANGE WAS MENTIONED IN Q. 38 (p. 28) AND IS SEEN AS IMPORTANT. THEREFORE, CODE "3" TO INDICATE A POSITIVE RESPONSE THAT WAS GIVEN WITHOUT A PROBE QUESTION.

COLUMNS	DESCRIPTION
44	Q. 39 - Do you see outside sources of change as important? 1- Yes 2- No 3- Yes, mentioned in Q. 38 9- DK/NA
45	Q. 40 - Do you see internal sources of change as important? 1- Yes 2- No 3- Yes, mentioned in Q. 38
	PAGE 30
46	Q. 41 - Would you say that external or internal sources of change were more important or would you say that they were about the same? 1- Internal 2- External 3- About the same 4- both 9- DK/NA
	PAGE 32
47	Q. 43 - Suppose you were offered an opportunity to take a position which would clearly provide you with a substantial improvement in your professional situation, but this opportunity would require that you move to another part of the country. Would you accept such a position? 1- Yes 2- No 3- Uncertain 9- DK/NA
	PAGE 33
(48-55)	Q. 44 - Now I'd like to ask you a question concerning the operation of Boynton Tech. In general, how much say or influence do you feel each of the following individuals or groups has on what goes on here at Boynton Tech? (CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 44 (continued) EACH INDIVIDUAL OR GROUP IS ASSIGNED A SEPARATE COLUMN. USE THE FOLLOWING CODES FOR COLUMNS 45-52: 1- little or no 2- some 3- quite a bit 4- a great deal of 5- a very great deal of 9- DK/NA NOTE: IN CASE OF TIES, CODE THE FIRST CATEGORY CHECKED.
48	THE BOARD OF TRUSTEES
49	THE PRESIDENT OF BOYNTON TECH
50	THE ADMINISTRATIVE COUNCIL
51	THE FACULTY AS A WHOLE
52	YOUR DEPARTMENT HEAD
53	THE STUDENT BODY
54	THE ALUMNI
55	YOU YOURSELF
	PAGE 34
56	Q. 45 - Self-classification according to Wilensky typology 1- Category 1 - professional 2- Category 2 - careerist 3- Category 3 - missionary 4- None 5- Category 1 and 2 6- Category 1 and 3 7- Category 2 and 3 9- DK/NA
57-76	SKIP
77	CARD SERIAL NUMBER Code "2"

COLUMNS	DESCRIPTION
78	SOURCE Code "2" for every card. (Indicates that information is from faculty interview)
79&80	STUDY AND ACTIVITY Code "01" for every card. (Indicates that information is for faculty, summer and fall of 1971.)

CARD #3

(POSITIONS IN CAREER HISTORY)

COLUMNS	DESCRIPTION
1-3	QUESTIONNAIRE NUMBER found in box in lower right-hand corner of cover sheet
	PAGE 11a - CAREER HISTORY
	Each position, up to 9 total positions, is to be coded. The information that will be coded for each position will require a field of 8 columns. Each field is assigned a position number which will be used in the coding scheme on Card #4. Changes in rank within an institution are to be considered as a new position. Whenever a point is reached at which all positions have been coded, put "0's" in the remaining columns through Column 75.
	POSITION FIELDS
(4-11)	First position
(12-19)	Second position
(20-27)	Third position
(28-35)	Fourth position
(36-43)	Fifth position
(44-51)	Sixth position
(52-59)	Seventh position
(60-67)	Eight position
(68-75)	Ninth position
(4-11)	POSITION NUMBER 1 (first real position)
4	NATURE OF FIRST POSITION 1- academic 2- teaching (not college level) 3- non-academic 4- Armed Forces - in profession 5- Armed Forces - not in profession or not sure 9- DK/NA
5	IF POSITION WAS ACADEMIC, RANK 0- INAPPLICABLE 1- assistant (teaching or research) 2- instructor 3- assistant professor 4- associate professor 5- full professor 6- other 9- DK/NA

COLUMNS	DESCRIPTION
6	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION 0- INAPPLICABLE 1- state university 2- university other than state supported, other than Catholic 3- technical school 4- liberal arts college, other than Catholic 5- junior college, community college 6- high school, junior high school, elementary school 7- Catholic college 8- state teacher's college 9- DK/NA
7	REGION OF FIRST POSITION 0- INAPPLICABLE 1-4- NE (other than locations in codes 1,2,&3.) 5- North central 6- South 7- West 8- non-U.S. 9- DK/NA
8&9	BEGINNING DATE OF FIRST POSITION Code last two digits of date when respondent began working in this position.
10&11	ENDING DATE OF FIRST POSITION Code last two digits of date when respondent left this position. 98- Present position
(12-19)	POSITION NUMBER 2
12	NATURE OF SECOND POSITION Same as Column 4.
13	IF POSITION WAS ACADEMIC, RANK Same as Column 5.
14	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
15	REGION OF SECOND POSITION Same as Column 7.

COLUMNS	DESCRIPTION
	POSITION NUMBER 2 (continued)
16&17	BEGINNING DATE OF SECOND POSITION Same as Columns 8&9.
18&19	ENDING DATE OF SECOND POSITION Same as Columns 10&11.
(20-27)	POSITION NUMBER 3
20	NATURE OF THIRD POSITION Same as Column 4.
21	IF POSITION WAS ACADEMIC, RANK Same as Column 5.
22	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
23	REGION OF THIRD POSITION Same as Column 7.
24&25	BEGINNING DATE OF THIRD POSITION Same as Columns 8&9.
26&27	ENDING DATE OF THIRD POSITION Same as Columns 10&11.
(28-35)	POSITION NUMBER 4
28	NATURE OF FOURTH POSITION Same as Column 4
29	IF POSITION WAS ACADEMIC, RANK Same as Column 5.
30	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
31	REGION OF FOURTH POSITION Same as Column 7.
32&33	BEGINNING DATE OF FOURTH POSITION Same as Columns 8&9.
34&35	ENDING DATE OF FOURTH POSITION Same as Columns 10&11.

COLUMNS	DESCRIPTION
(26-43)	POSITION NUMBER 5
36	NATURE OF FIFTH POSITION Same as Column 4.
37	IF POSITION WAS ACADEMIC, RANK Same as Column 5.
38	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
39	REGION OF FIFTH POSITION Same as Column 7.
40&41	BEGINNING OF FIFTH POSITION Same as Columns 8&9.
42&43	ENDING DATE OF FIFTH POSITION Same as Columns 10&11.
(44-51)	POSITION NUMBER 6
44	NATURE OF SIXTH POSITION Same as Column 4.
45	IF POSITION WAS ACADEMIC, RANK Same as Column 5.
46	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
47	REGION OF SIXTH POSITION Same as Column 7.
48&49	BEGINNING OF SIXTH POSITION Same as Columns 8&9.
50&51	ENDING DATE OF SIXTH POSITION Same as Columns 10&11.
(52-59)	POSITION NUMBER 7
52	NATURE OF SEVENTH POSITION Same as Column 4.
53	IF POSITION WAS ACADEMIC, RANK Same as Column 5.

COLUMNS	DESCRIPTION
54	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
55	REGION OF SEVENTH POSITION Same as Column 7.
56&57	BEGINNING DATE OF SEVENTH POSITION Same as Columns 8&9.
58&59	ENDING DATE OF SEVENTH POSITION Same as Columns 10&11.
(60-67)	POSITION NUMBER 8
60	NATURE OF EIGHTH POSITION Same as Column 4.
61	IF POSITION WAS ACADEMIC, RANK Same as Column 5.
62	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
63	REGION OF EIGHTH POSITION Same as Column 7.
64&65	BEGINNING DATE OF EIGHTH POSITION Same as Columns 8&9.
66&67	ENDING DATE OF EIGHTH POSITION Same as Columns 10&11.
(68-75)	POSITION NUMBER 9
68	NATURE OF NINTH POSITION Same as Column 4.
69	IF POSITION WAS ACADEMIC, RANK Same as Column 5.
70	IF POSITION WAS ACADEMIC OR TEACHING, TYPE OF INSTITUTION Same as Column 6.
71	REGION OF NINTH POSITION Same as Column 7.
72&73	BEGINNING DATE OF NINTH POSITION Same as Columns 8&9.

COLUMNS	DESCRIPTION
74&75	ENDING DATE OF NINTH POSITION Same as Columns 10&11.
76	SKIP
77	CARD SERIAL NUMBER Code "3."
78	SOURCE Code "2" for every card. (Indicates that information is from faculty interview)
79&80	STUDY AND ACTIVITY Code "01" for every card (Indicates that information for faculty, summer and fall of 1971.)

CARD # 4

COLUMNS	DESCRIPTION
1-3	QUESTIONNAIRE NUMBER found in box in lower right-hand corner of cover sheet
	PAGE 11a - CAREER HISTORY
4	NUMBER OF POSITIONS HELD ALTOGETHER This corresponds with the number of positions coded on Card #3. 1- one 2- two 3- three 4- four 5- five 6- six 7- seven 8- eight 9- nine or more
5	NUMBER OF ACADEMIC POSITIONS HELD ALTOGETHER Count the number of times "1" was coded in Columns 4, 12, 20, 28, 36, 44, 52, 60, and 68. (Card #3) 1- one 2- two 3- three 4- four 5- five 6- six 7- seven 8- eight 9- nine or more
6	NUMBER OF NON-ACADEMIC POSITIONS HELD ALTOGETHER In this case, non-academic means anything that was not coded as "0" or "1" in Columns 4, 12, 20. 28, 36, 44, 52, 60, and 68. (Card #3) 0- zero 1- one 2- two 3- three 4- four 5- five 6- six 7- seven 8- eight 9- nine or more

COLUMNS	DESCRIPTION
7&8	MOST SATISFYING AND REWARDING POSITION OR PERIOD (to be checked against Card #3) 00- INAPPLICABLE (Code "0's" in Columns 9, 10, 11, & 12) POSITION NUMBERS 01- one 02- two 03- three 04- four 05- five 06- six 07- seven 08- eight 09- nine 11- one and two 12- one and two and three 13- one and three 14- two and three and four 15- two and three 16- four and five 17- two and five 18- one and five and six 19- two through nine 20- all Boynton Tech positions PERIODS: BOYNTON TECH 30- plan period (1969-1971) 31- 1963-1968 32- 1957-1962 33- 1951-1956 34- 1945-1950 35- 1939-1944 36- 1933-1938 37- 1927-1932 PERIODS: NON-BOYNTON TECH 40- 1969-1971 41- 1963-1968 42- 1957-1962 43- 1951-1956 44- 1945-1950 45- 1939-1944 46- 1933-1938 47- 1927-1932 50- none 51- Codes 32&33 52- Codes 31&32 61- Codes 40&41 62- Codes 46&47 90- satisfied with everything 99- DK/NA

COLUMNS	DESCRIPTION
	PAGE 13
9&10	Q. 16a - Why was that? (Of all the positions you have held, which of these do you see as most satisfying and rewarding?) 00- INAPPLICABLE 10- economic reasons, ahead of the game, lived better then (now) 20- the kind of work respondent likes to do (industry) 30- the kind of work respondent likes to do (academic) 40- geographic location 50- family proximity 60- sense of accomplishment, sense of achievement, sense of getting ahead, sense of responsibility 70- size and sense of community, gemeinschaft 80- freedom, opportunity in academia, good students 90- personal satisfaction other than academic 95- working conditions 99- DK/NA
11&12	Q. 16a - SECOND RESPONSE 00- INAPPLICABLE 10- economic reasons, ahead of the game, lived better then (now) 20- the kind of work respondent likes to do (industry) 30- the kind of work respondent likes to do (academic) 40- geographic location 50- family proximity 60- sense of accomplishment, sense of achievement, sense of getting ahead, sense of responsibility 70- size and sense of community, gemeinschaft 80- freedom, opportunities in academia, good students 90- personal satisfaction other than academic 95- working conditions 99- DK/NA

COLUMNS	DESCRIPTION
	PAGE 11a
13&14	LEAST SATISFYING AND REWARDING POSITION OR PERIOD (To be checked against Card #3) 00- INAPPLICABLE (Code "0's" in Columns 15&16) POSITION NUMBERS 01- one 02- two 03- three 04- four 05- five 06- six 07- seven 08- eight 09- nine 11- one and two 12- one and two and three 13- one and three 14- two and three and four 15- two and three 16- four and five 17- two and five 18- one and five and six 19- two through nine 20- all Boynton Tech positions PERIODS: BOYNTON TECH 30- plan period (1969-1971) 31- 1963-1968 32- 1957-1962 33- 1951-1956 34- 1945-1950 35- 1939-1944 36- 1933-1938 37- 1927-1932 PERIODS: NON-BOYNTON TECH 40- 1969-1971 41- 1963-1968 42- 1957-1962 43- 1951-1956 44- 1945-1950 45- 1939-1944 46- 1933-1938 47- 1927-1932 50- none 51- Codes 32&33 52- Codes 31&32 61- Codes 40&41 62- Codes 46&47 90- not satisfied with anything 99- DK/NA

COLUMNS	DESCRIPTION
	PAGE 14
15	Q. 17a - What made this position or period unsatisfactory? 0- INAPPLICABLE 1- economic reasons 2- the kind of work respondent doesn't like to do (industry) 3- the kind of work respondent doesn't like to do (academic) 4- OTHER 5- unhappy with administration, conflict, didn't like working conditions 6- no sense of achievement, accomplishment, etc., no challenge 7- size and sense of community 8- low level of responsibility, position, prestige, etc. 9- DK/NA
16	Q. 17a - SECOND RESPONSE 0- INAPPLICABLE 1- economic reasons 2- the kind of work respondent doesn't like to do (industry) 3- the kind of work respondent doesn't like to do (academic) 4- OTHER 5- unhappy with administration, conflict, didn't like working conditions 6- no sense of achievement, accomplishment, etc., no challenge 7- size and sense of community 8- low level of responsibility, position, prestige, etc. 9- DK/NA
17	Q. 18 - What happened following that satisfactory period (position)....? 0- INAPPLICABLE 1- forthright and specific reference to tangible events 2- ennui - personal sense of deterioration of self and/or organization - diffused, generalized, angst 9- DK/NA

COLUMNS	DESCRIPTION
18&19	Q. 19 - What kinds of things would improve your current state of affairs? 10- money, including asides 20- improved facilities, increased support 30- better students, higher standards, etc. 40- improved collegial relations, better colleagues, new structure 50- finish degree, write dissertation 60- nothing, am currently happy 70- other aspects of working conditions 80- personal dimensions 90- OTHER 91- Codes 1&2 92- Codes 3&7 99- DK/NA
20&21	Q. 19 - SECOND RESPONSE 00- INAPPLICABLE 10- money, including asides 20- improved facilities, increased support 30- better students, higher standards, etc. 40- improved collegial relations, better colleagues, new structure 50- finish degree, write dissertation 60- nothing, am currently happy 70- other aspects of working conditions 80- personal dimensions 90- OTHER 91- Codes 1&2 92- Codes 3&7 99- DK/NA
22	Q. 11b and Q. 15 - INTERGENERATIONAL MOBILITY OF FATHER'S OCCUPATION CLASSIFIED BY MAJOR OCCUPATION GROUP 0- INAPPLICABLE 1- upward 2- lateral 3- unclear 9- DK/NA
23	Q. 8z and Q. 11a - INTERGENERATIONAL MOBILITY OF HIGHEST DEGREE RECEIVED BY RESPONDENT AND HIGHEST DEGREE RECEIVED BY FATHER OR GUARDIAN OF RESPONDENT 1- upward 2- lateral 3- unclear 9- DK/NA
24	SKIP

COLUMNS	DESCRIPTION
	PAGE 22
25	Q. 27 - Overall, do you favor the changes proposed in the Boynton Plan? 1- Yes (Code "0's" in Columns 28&29, 42-51) 2- No (Code "0's" in Columns 26&27, 30-41) 3- Yes & No 4- Yes, no category checked, but interviewer used pink sheets 5- No, no category checked, but interviewer used green sheets 9- DK/NA
26	Q. 27(b) - Why do you <u>support</u> the proposed changes? 0- INAPPLICABLE 1- responds in global terms - educational purposes, etc. 2- because it is good for discipline 3- because Boynton Tech needs to be different in order to survive, puts Boynton Tech in competition 4- make life better personally, personal gains 5- because others, institution, wants this, willing to go along 7- OTHER 9- DK/NA
27	Q. 27(b) - SECOND RESPONSE (<u>SUPPORT</u>) 0- INAPPLICABLE 1- responds in global terms - educational purpose, etc. 2- because it is good for discipline 3- because Boynton Tech needs to be different in order to survive, puts Boynton Tech in competition 4- make life better personally, personal gains 5- because others, institution, wants this, willing to go along 7- OTHER 9- DK/NA
28	Q. 27(b) - Why do you oppose the proposed change? 0- INAPPLICABLE

(CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 27(b) (continued) 1- oppose on personal grounds, course work, don't know how to relate 2- oppose because of what it will do to institution 3- bad for education in my discipline 4- oppose because it is educationally unsound, too permissive, students won't get a good education 7- OTHER 8- too expensive, will cost too much 9- DK/NA
29	Q. 27(b) - SECOND RESPONSE (OPPOSITION) 0- INAPPLICABLE 1- oppose on personal grounds, course work, don't know how to relate 2- oppose because of what it will do to institution 3- bad for education in my discipline 4- oppose because it is educationally unsound, too permissive, students won't get a good education 7- OTHER 8- too expensive, will cost too much 9- DK/NA
	NOTE: THE RESPONDENT WHO IS UNCERTAIN ABOUT OR AMBIVALENT TOWARD THE BOYNTON PLAN MAY HAVE GIVEN RESPONSES THAT CAN BE CODED IN BOTH THE SUPPORT AND OPPOSITION COLUMNS THAT ARE ON THE PRECEDING PAGE. ALSO, RESPONSES MAY BE CODED ON BOTH THE PINK AND GREEN SHEETS.
	PINK SHEETS
	PAGE 23
30&31	Q. 29a - What steps or actions have you taken in the past in opposition to the Boynton Plan? 00- INAPPLICABLE 10- voted against the plan 20- opposed in department meetings 30- opposed in faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work against 60- informal criticism 70- wrote a position paper 99- DK/NA

COLUMNS	DESCRIPTION
32&33	Q. 29a - SECOND RESPONSE 00- INAPPLICABLE 10- voted against the plan 20- opposed in department meetings 30- opposed in faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work against 60- informal criticism 70- wrote a position paper 99- DK/NA
34	Q. 30 - What factors caused you to change your stand toward the Boynton Plan? 0- INAPPLICABLE 10 people I respected convinced me 2- came to know more about it and realized that it was O.K. Mulled over, changed mind 3- changed my mind because I realized external impetus, forces outside 4- recognized that if we didn't do something, Boynton Tech would go bankrupt. The School needed something 5- I had to go along, felt obliged to go along 6- changes made departing from original plan 9- DK/NA
35	Q. 30 - SECOND RESPONSE 0- INAPPLICABLE 1- people I respected convinced me 2- came to know more about it and realized that it was O.K. Mulled over, changed mind 3- changed my mind because I realized external impetus, forces outside 4- recognized that if we didn't do something, Boynton Tech would go bankrupt. The school needed something 5- I had to go along, felt obliged to go along 6- changes made departing from original plan 9- DK/NA
	PAGE 24
36&37	Q. 31a - What actions have you taken in the past in support of the Boynton Plan? (CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 31a (continued) 00- INAPPLICABLE 10- voted for the plan 20- supported in department meetings 30- supported in faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work for plan 60- informal support 70- wrote a position paper 80- Codes 10&50 81- Codes 20&30 82- Codes 50&60 99- DK/NA
38&39	Q. 31a - SECOND RESPONSE 00- INAPPLICABLE 10- voted for the plan 20- supported in department meetings 30- supported ir faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work for plan 60- informal support 70- wrote a position paper 80- Codes 10&50 81- Codes 20&30 82- Codes 50&60 99- DK/NA
40	Q. 32a - What activities or assignments do you have which go along this line? (PRESENT SUPPORT OF PLAN) 0- INAPPLICABLE 1- preparing material for intercession 2- preparing projects, on project committee 3- on department curriculum committee 4- on college curriculum committee, on any college committee 5- am an advisor, or on college advising committee 6- preparing material for external funding justification 7- specific study/conference or courses 8- Codes 1&2 9- DK/NA

COLUMNS	DESCRIPTION
41	Q. 32a - SECOND RESPONSE 0- INAPPLICABLE 1- preparing material for intercession 2- preparing projects, on project committee 3- on department curriculum committee 4- on college curriculum committee, on any college committee 5- am an advisor, or on college advising committee 6- preparing material for external funding justification 7- specific study/conference or courses 8- Codes 1&2 9- DK/NA
	GREEN SHEETS
	PAGE 26
42&43	Q. 34a - What steps or actions have you taken in the past to express support for the changes called for in the Boynton Plan? 00- INAPPLICABLE 10- voted for the plan 20- supported in department meetings 30- supported in faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work for plan 60- informal support 70- wrote a position paper 99- DK/NA
44&45	Q. 34a - SECOND RESPONSE 00- INAPPLICABLE 10- voted for the plan 20- supported in department meetings 30- supported in faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work for plan 60- informal support 70- wrote a position paper 99- DK/NA

COLUMNS	DESCRIPTION
	PAGE 27
46&47	Q. 36a - What steps or actions have you taken in the past in opposition to the plan? 00- INAPPLICABLE 10- voted against the plan 20- opposed in department meetings 30- opposed in faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work against 60- informal criticism 70- wrote a position paper 99- DK/NA
48&49	Q. 36a - SECOND RESPONSE 00- INAPPLICABLE 10- voted against the plan 20- opposed in department meetings 30- opposed in faculty meetings 40- petitioned president, board of trustees 50- member of organized group to work against 60- informal criticism 70- wrote a position paper 99- DK/NA
50	Q. 37a - At present, what are you doing to express your opposition to the plan? 0- INAPPLICABLE 1- talking to people 2- writing a critical analysis 3- petitioning administration 4- part of a critical group 5- discouraging students 9- DK/NA
51	Q. 37a - SECOND RESPONSE 0- INAPPLICABLE 1- talking to people 2- writing a critical analysis 3- petitioning president 4- part of a critical group 5- discouraging students 9- DK/NA

COLUMNS	DESCRIPTION
	PAGES 28 & 29
52&53	Q. 38, Q. 39, & Q. 40 - IMPETUS FOR CHANGING EXISTING PROGRAM AT BOYNTON TECH
	10- EXTERNAL: social pressures, conditions in society
	11- EXTERNAL: students
	20- EXTERNAL: job market for graduates
	30- EXTERNAL: competition from state university, market, uniqueness concept
	40- EXTERNAL: financial
	50- INTERNAL: philosophical
	60- INTERNAL: hierarchical, President of Boynton Tech
	70- INTERNAL: hierarchical, other than President of Boynton Tech
	80- INTERNAL: self-seeking (of those who would wish to advance in position)
	81- INTERNAL: faculty problems, lack of institutional committment, lack of leadership
	82- INTERNAL: non-hierarchical
	93- Codes 10&82
	94- Codes 60&70
	95- Codes 30&60
	96- Codes 30&50&70
	97- Codes 11&40
	98- Codes 10&20&30
	99- DK/NA
54&55	Q. 38, Q. 39, & Q. 40 - SECOND RESPONSE
	00- INAPPLICABLE
	10- EXTERNAL: social pressures, conditions in society
	11- EXTERNAL: students
	20- EXTERNAL: job market for graduates
	30- EXTERNAL: competition from state university, market, uniqueness concept
	40- EXTERNAL: financial
	50- INTERNAL: philosophical
	60- INTERNAL: hierarchical, President of Boynton Tech
	70- INTERNAL: hierarchical, other than President of Boynton Tech

(CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 38, Q. 39, & Q. 40 - (continued)
	80- INTERNAL: self-seeking (of those who would wish to advance in position)
	81- INTERNAL: faculty problems, lack of institutional committment, lack of leadership
	82- INTERNAL: non-hierarchical
	93- Codes 10&82
	94- Codes 60&70
	95- Codes 30&60
	96- Codes 30&50&70
	97- Codes 11&40
	98- Codes 10&20&30
	99- DK/NA
56&57	Q. 38, Q. 39, & Q. 40 - THIRD RESPONSE
	00- INAPPLICABLE
	10- EXTERNAL: social pressures, conditions in society
	11- EXTERNAL: students
	20- EXTERNAL: job market for graduates
	30- EXTERNAL: competition from state university,market, uniqueness concept
	40- EXTERNAL: financial
	50- INTERNAL: philosophical
	60- INTERNAL: hierarchical, President of Boynton Tech
	70- INTERNAL: hierarchical, other than President of Boynton Tech
	80- INTERNAL: self-seeking (of those who would wish to advance in position)
	81- INTERNAL: faculty problems, lack of institutional committment, lack of leadership
	82- INTERNAL: non-hierarchical
	93- Codes 10&82
	94- Codes 60&70
	95- Codes 30&60
	96- Codes 30&50&70
	97- Codes 11&40
	98- Codes 10&20&30
	99- DK/NA

PAGE 30

COLUMNS	DESCRIPTION
58&59	Q. 42(1) - effects of Boynton Plan on your career 10- will have to work harder (general) 20- more work, counseling 30- more work, teaching 35- changes, no direction 40- will do more research (opportunity opened up by projects) 50- things will be much better, more exciting, will help career 55- on balance, positive (no bad effects, etc.) 60- things will be worse -- too many extraneous things to do, advising, etc.; will have to do things I don't want to do 65- on balance, negative 70- don't think I'll be here much longer, not sure 75- some good and bad effects 80- no effect, too near retirement, things will go on as before, etc. 98- uncertain, concerned, worried 99- DK/NA
60&61	Q. 42(1) - SECOND RESPONSE 00- INAPPLICABLE 10- will have to work harder (general) 20- more work, counseling 30- more work, teaching 35- changes, no direction 40- will do more research (opportunity opened up by projects) 50- things will be much better, more exciting, will help career 55- on balance, positive (no bad effects, etc.) 60- things will be worse -- too many extraneous things to do, advising, etc.; will have to do things I don't want to do 65- on balance, negative 70- don't think I'll be here much longer, not sure 75- some good and bad effects 80- no effect, too near retirement, things will go on as before, etc. 98- uncertain, concerned, worried 99- DK/NA

PAGE 31

COLUMNS	DESCRIPTION
62&63	Q. 42(2) - effects of Boynton Plan on the postgraduate experiences of Boynton Tech students 10- will be more alert and aware of the world, will be broadened 20- will be more competent as engineer (or in chosen discipline), will be more competent as graduate student 30- will be able to get better job, or get into graduate school, better advancement in career, student will fit better into job 40- will make little difference, no effect 50- less competent technically in speciality, less well trained 60- less able to get a job, get into graduate school 70- problems, obstacles to be overcome (student's credentials, no transcript, etc.) 80- depends on the type of student (some will do better than others) 90- different type of student recruited as result of plan 95- OTHER 98- Codes 80&90 99- DK/NA
64&65	Q. 42(2) - SECOND RESPONSE 00- INAPPLICABLE 10- will be more alert and aware of the world, will be broadened 20- will be more competent as engineer (or in chosen discipline), will be more competent as graduate student 30- will be able to get better job, or get into graduate school, better advancement in career, student will fit better into job 40- will make little difference, no effect 50- less competent technically in specialty, less well trained 60- less able to get a job, get into graduate school 70- problems, obstacles to be overcome (student's credentials, no transcript, etc.) (CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 42(2) (continued) 80- depends on the type of student (some will do better than others) 90- different type of student recruited as result of plan 95- OTHER 99- DK/NA
66	Q. 42(2) - OF THOSE INDICATING IMPROVEMENT, DEGREE OF UNCERTAINTY OR OUTCOME 0- INAPPLICABLE 1- no uncertainty expressed 2- mild uncertainty, remarked on as aside, etc. 3- moderate or strong uncertainty 9- DK/NA
67&68	Q. 42(3) - effects of Boynton Plan on your department 10- little or no effect 20- turnover 30- different, no direction 40- will decline, will cost us, unable to deal with program 50- depends, some will do better than others 55- polarization 60- department will be improved, morale improved 70- department will be less important at Boynton Tech 80- faculty will have to work harder 90- OTHER 95- accommodation, adaptation 96- more inter-disciplinary work 99- DK/NA
69&70	Q. 42(3) - SECOND RESPONSE 00- INAPPLICABLE 10- little or no effect 20- turnover 30- different,no direction 40- will decline, will cost us, unable to deal with program 50- depends, some will do better than others 55- polarization 60- department will be improved, morale improved 70- department will be important at Boynton Tech (CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 42(3) (continued) 80- faculty will have to work harder 90- OTHER 95- accommodation, adaptation 96- more inter-disciplinary work 99- DK/NA
	PAGE 32
71&72	Q. 42(4) - effects of Boynton Plan on the faculty as a <u>whole</u> 10- little or no effect 20- quality will improve, nature of faculty will improve 30- faculty will have to work harder 40- morale will go up 50- morale will go down, sense of confusion 55- polarization 60- faculty will become more dominant in policy making 70- faculty will become less dominant 80- more turnover among faculty 90- some will do better than others 95- accommodation, adaptation 96- Codes 20&30&90 97- Codes 20&80&55 98- OTHER 99- DK/NA
73&74	Q. 42(4) - SECOND RESPONSE 00- INAPPLICABLE 10- little or no effect 20- quality will improve, nature of faculty will improve 30- faculty will have to work harder 40- morale will go up 50- morale will do down, sense of confusion 55- polarization 60- faculty will become more dominant in policy making 70- faculty will become less dominant 80- more turnover among faculty 90- some will do better than others 95- accommodation, adaptation 96- Codes 20&30&90 97- Codes 20&80&55 98- OTHER 99- DK/NA

COLUMNS	DESCRIPTION
75&76	SKIP
77	CARD SERIAL NUMBER Code "4"
78	SOURCE Code "2" for every card (indicates that information is from faculty interview)
79&80	STUDY AND ACTIVITY Code "01" for every card. (indicates that information is for faculty, summer and fall of 1971.)

CARD #5

COLUMNS	DESCRIPTION
1-3	QUESTIONNAIRE NUMBER found in box in lower right-hand corner of cover sheet
	PAGE 2
4	Q. 7 - ....when you think about the things you do professionally, what is it that you regard as most important to you? 1- teaching 2- research, problem solving 3- both teaching and research 4- other 5- consulting 6- teaching and consulting 9- DK/NA
	PAGE 5
5	Q. 10a - Can you tell me about that? ("BREAKS IN EDUCATION") - NATURE 0- INAPPLICABLE 1- worked in profession - not armed forces, taught in high school 2- worked either not in profession or not at appropriate level, or professional relevance not known - not armed forces 3- armed forces - in profession 4- armed forces - not in profession or no indication as to professional relevance 5- miscellaneous - several interruptions - some in profession 6- miscellaneous - several interruptions -- none in profession 7- other 9- DK/NA
6	Q. 10a & Q. 10c - Can you tell me more about that? ("BREAKS IN EDUCATION") - RESULTS 0- INAPPLICABLE 1- led to further education 2- led to identification with profession (then possibly to more education) 3- sustained respondent until he could return to pursuit of educational goals

(CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 10a & Q. 10c (continued) 4- led to shift in direction with regard to professional goals 5- led to maturity prior to further pursuit of educational goals 6- other 9- DK/NA
	PAGE 9
7	Q. 11g - Could you tell me why this is not what you had expected? 0- INAPPLICABLE 1- different - up 2- different - down 3- other than what I had expected, but no increment or direction 4- field different, but expected to teach 5- expected field, but didn't expect to teach 6- other than what I had expected, unclear 9- DK/NA
	PAGE 10
8	Q. 12 - When and how did you decide upon (STATE DISCIPLINE)? - WHEN 1- before high school 2- in high school 3- in undergraduate school 4- after undergraduate school, or after high school 5- other 6- after first graduate degree 9- DK/NA
9	Q. 12 - When and how did you decide upon (STATE DISCIPLINE)? - <u>HOW</u> 1- familial influence 2- influence of teachers, course experience, exposure to field 3- influence of friends 4- result of work experience 5- accidental -- 'fell into it,' expedience 6- other 7- natural inclination, thing I liked to do 9- DK/NA

COLUMNS	DESCRIPTION
10	Q. 12 - SECOND RESPONSE - HOW 0- INAPPLICABLE 1- familial influence 2- influence of teachers 3- influence of friends 4- result of work experience 5- accidental -- 'fell into it' 6- other 9- DK/NA
11	Q. 13 - When and how did you decide upon teaching? - WHEN 1- before high school 2- high school 3- in undergraduate school, after high school 4- after undergraduate school 5- other 6- after first graduate degree 9- DK/NA
12	Q. 13 - When and how did you decide upon teaching? - HOW 1- familial influence 2- influence of teachers, course experience, exposure to field 3- influence of friends 4- result of work experience 5- accidental -- 'fell into it' 6- other 9- DK/NA
13	Q. 13 - SECOND RESPONSE - HOW 0- INAPPLICABLE 1- familial influence 2- influence of teachers 3- influence of friends 4- result of work experience 5- accidental -- 'fell into it' 6- other 9- DK/NA
14	Q. 14 - Is there any reason why you decided to teach at a school like Boynton Tech as opposed to a general college or university? 1- no reason given 2- situational - "got a call from Boynton Tech out of the blue," "previously with Boynton Tech," etc. (CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 14 (continued) 3- opportunity - job arose when needed, stumbled across job 4- geographical location 5- specific reference to characteristics of school (department, students, etc.) 6- other 9- DK/NA
15	Q. 14 - SECOND RESPONSE 0- INAPPLICABLE 1- no reason given 2- situational - "got a call from Boynton Tech out of the blue," "previously with Boynton Tech," etc. 3- opportunity - job arose when needed, stumbled across job 4- geographical location 5- specific reference to characteristics of school (departments, students, etc.) 6- other 9- DK/NA
16	Q. 14 - THIRD RESPONSE 0- INAPPLICABLE 1- no reason given 2- situational - "got a call from Boynton Tech out of the blue," "previously with Boynton Tech," etc. 3- opportunity - job arose when needed, stumbled across job 4- geographical location 5- specific reference to characteristics of school (departments, students, etc.) 6- other 9- DK/NA
17	PAGE 15, PAGE 16, PAGE 17, PAGE 18 Q. 20(1), Q. 20(2), Q. 20(3), Q. 20(4) - ORIENTATION TOWARD CHANGE 1- radically innovative - one who works from the premise that change is imperative even at the risk of error, has strong sense of rejection of conventional methods and structure 2- strongly innovative - one who advocates change, sees need to adapt to the changing scene. (CONTINUED ON NEXT PAGE)

COLUMNS	DESCRIPTION
	Q. 20(1), Q. 20(2), Q. 20(3), Q. 20(4) (continued) 3- mildly innovative - one who favors change, but wants to go slow, proceed with care 4- conservative - one who doesn't accept the need for change and has to be shown 5- radically conservative - one who is sure that change is not necessary and is not likely to be convinced otherwise 6- neutral 9- DK/NA
	PAGE 15, PAGE 16, PAGE 17 EXPLANATION OF AWARENESS CODE
	broad - refers to the fact that respondent mentions 2 or more issues single issue - only one issue discussed comprehensive - talks of mass education, relevance, of possible other issues with considerable familiarity (examples for column 18) uneven - covers above issues, but some with much better sense than others superficial - enumerates issues but offers few or no details
18	Q. 20(1) - the changing role of higher education in the United States AWARENESS 1- broad -comprehensive, detailed 2- broad-uneven 3- broad-superficial 4- single issue-comprehensive 5- single issue-not really complete 6- single issue-superficial 9- DK/NA
19	Q. 20(2) - the place of engineering, scientific, and technical education in American society SAME AS COLUMN 18
20	Q. 20(3) - the role of the humanities and social sciences in the training of engineers and technicians SAME AS COLUMN 18
21-26	SKIP

COLUMNS	DESCRIPTION
	PAGE 21
27	Q. 26a & Q. 26b - Respondent's response to students discussing personal, non-academic problems 1- try to discourage 2- listen, helpful 3- direction given 9- DK/NA
	PAGE 32
28	Q. 43a - Why wouldn't you accept such a position? 0- INAPPLICABLE 1- committed to area, "love New England," etc. 2- family is here, reluctant to leave (except: those holding off until child out of school) 3- committed to Boynton Tech 4- too old to leave, don't have the way, wherewithall, etc. 5- temporary, situational, reluctant to leave (on part of family) 6- 1 and 3
	PAGE 35
29	Q. 46 - What about your professional plans for the next 5 or ten years? 1- yes, plans 2- no, or not clear (Code "0's" in Columns 30-33) 9- DK/NA
30	Q. 46 - NATURE OF PLANS 0- INAPPLICABLE 1- stay same, do as I have in past 2- more research 3- desire to publish 4- improve teaching 5- more advising, spend more time with students 6- finish degree (write dissertation, finish courses, etc.) 7- retire 8- other 9- DK/NA

COLUMNS	DESCRIPTION
31	Q. 46 - NATURE OF PLANS - SECOND RESPONSE 0- INAPPLICABLE 1- stay same, do as I have in past 2- more research 3- desire to publish 4- improve teaching 5- more advising, spend more time with students 6- finish degree 7- retire 9- DK/NA
32	Q. 46 - ARE PLANS MENTIONED IN CONNECTION TO BOYNTON PLAN? 0- INAPPLICABLE 1- yes 2- no 9- DK/NA
33	Q. 46 - DOES RESPONDENT PLAN TO LEAVE BOYNTON TECH? 0- INAPPLICABLE 1- yes 2- no 3- not mentioned 4- possibly 9- DK/NA
34-40	SKIP
41	PLAN RECEPTIVITY 1- was against plan in past 2- have not actively suppported plan 3- voted for plan and/or informal support only 4- took other or additional action in support of plan 5- member of organized group working for plan 8- opposed to plan 9- DK/NA
42-48	SKIP

COLUMNS	DESCRIPTION
49	PUBLICATIONS INDEX 0- lower than the median publication index 1- equal to or higher than the median publication index (a) from card #6 (vita), Columns 53&54, the number of publications for each respondent was listed (b) from Card #6, Columns 51&52, the date of first publication was listed (c) the date of the first publication was subtracted from 1971 in order to determine the number of years since first publication (d) the date of the last degree received was listed (Card #6, Columns 24&25 or 34&35.) (e) to arrive at the publication index, the number of publications was divided by the years since first publication EXPLANATORY NOTE: If the difference between the date of last degree received and the first publication was five years or more, the publication index was calculated by using the date of last degree and subtracting that from 1971. (f) the median publication index was calculated, and those above the median or equal to it, received scores of 1, and those below it, received scores of 0.
50	MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS 0- not a member of 2 or more professional organizations 1- a member of 2 or more professional organizations (Information from Card #6, Column 55)
51	INTER-REGIONAL MOVES 0- no moves 1- moves Card #3, Columns 7, 15, 23, 31, 39, 47, 55, 63, & 71

COLUMNS	DESCRIPTION
	INTER-REGIONAL (continued) Codes 1, 2, 3, & 4 were considered as 1 region, and codes 5, 6, 7, & 8 were each considered as separate regions. Each change of region which occurred with a change of position was considered a move. Those who had inter-regional moves were coded as "1" and those with no moves were coded as "0."
52	CHARACTER OF SATISFACTION 0- Code 60 did not appear in Card #4, Columns 9&10, or 11&12 1- Code 60 did appear in Card #4, Columns 9&10, or 11&12 Code 60 = sense of accomplishment, sense of achievement, sense of getting ahead, sense of responsibility
53	SELECTED AUDIENCE 0- Card #5, Column 4 is not 2, AND Card #2, Column 17 is not 1, AND Card #2, Column 22 is not 4 1- one or more of the above codes does appear (Shows a disposition toward research)
54	SELF-CHARACTERIZATION 0- Code 1 does not appear in Card #2, Column 56 1- Code 1 does appear in Card #2, Column 56
55	OPPORTUNITY TO MOVE 0- Code 0 or 5 does not appear in Card #5, Column 28 1- Code 0 or 5 does appear in Card #5, Column 28
56	PROFESSIONALIZATION SCALE The sum of the scores in Columns 48-55.

CODING ADDITIONS - CARD #5

COLUMNS	DESCRIPTION
57	Q. 20(1) - the changing role of higher education RECODE 1- if codes 3 or 6 appeared in Column 18, Card #5 (superficial) 2- if codes 2 or 5 appeared in Card #5, Column 18 (uneven, not really complete) 3- if codes 1 or 4 appeared in Card #5, Column 18 (comprehensive) 0- if a 9 appeared in Card #5, Column 18
58	Q. 20(2) - the place of engineering, scientific, and technical education in American society 1- if codes 3 or 6 appeared in Card #5, Column 19 2- if codes 2 or 5 appeared in Card #5, Column 19 3- if codes 1 or 4 appeared in Card #5, Column 19 0- if a 9 appeared in Card #5, Column 19
59	Q. 20(3) - the role of the humanities and social sciences in the training of engineers and technicians 1- if codes 3 or 6 appeared in Card #5, Column 20 2- if codes 2 or 5 appeared in Card #5, Column 20 3- if codes 1 or 4 appeared in Card #5, Column 20 0- if a 9 appeared in Card #5, Column 20
60	ADD THE CODES IN COLUMNS 57, 58, and 59. AWARENESS (1) INDEX.
61	Q. 20(1) - the changing role of higher education 1- if codes 1 or 4 appeared in Card #5, Column 18 0- all others

CODING ADDITIONS - CARD #5

COLUMNS	DESCRIPTION
62	Q. 20(2) - the place of engineering, scientific and technical education in American society 1- if codes 1 or 4 appeared in Card #5, Column 19 0- all others
63	Q. 20(3) - the role of the humanities and social sciences in the training of engineers and technicians 1- if codes 1 or 4 appeared in Card #5, Column 20 0- all others
64	ADD THE CODES IN COLUMNS 61, 62, and 63. AWARENESS (2) INDEX.
65	Q. 38, Q. 39, & Q. 40 - IMPETUS FOR CHANGING EXISTING PROGRAM AT BOYNTON TECH RECODE Does the respondent perceive the faculty as an impetus? 1- yes (if codes 80, 81, 82, or 93 appear in Card #4, Columns 52&53, 54&55, 56&57.) 2- No (absence of these codes)
66-76	SKIP
77	CARD SERIAL NUMBER Code "5"
78	SOURCE Code "2" for every card. (Indicates that information is from faculty interview)
79&80	STUDY AND ACTIVITY Code "01" for every card.

CARD #6

CODING SCHEME - BOYNTON TECH VITAE

COLUMN	DESCRIPTION
1-9	BACKGROUND INFORMATION
1+2	DEPARTMENT 01- chemical engineering 02- chemistry 03- civil engineering 04- computer science 05- economics, government, business 06- electrical engineering 07- english 08- history and modern languages 09- library 10- management engineering 11- mathematics 12- mechanical engineering 13- military science 14- physical engineering and athletics 15- physics 16- non-departmental
3+4	IDENTIFICATION NUMBER WITHIN DEPARTMENT Each faculty member within a department will have a two digit code number. These codes can be found on a master list.
5+6	SKIP
7	STATUS 1- faculty, department head 2- faculty 3- dean and faculty 4- other administrator 5- alumni 6- trustee 7- graduate student 8- undergraduate student
8	POSITION 1- full time 2- part time 9- unknown

COLUMNS	DESCRIPTION
9	RANK 1- professor 2- associate professor 3- assistant professor 4- instructor 5- lecturer 6- affiliate professor 7- affiliate associate professor 8- visiting status 9- unknown
10&11	SKIP
(12-17)	UNDERGRADUATE EDUCATION EXPERIENCE
12&13	MAJOR SUBJECT 10- BUSINESS 11- accounting 12- finance 13- marketing 14- public relations 20- ENGINEERING 21- biomedical engineering 22- chemical engineering 23- city and regional planning 24- civil engineering 25- computers 26- digital and control systems 27- electrical engineering 28- electronics 29- engineering physics 30- environmental engineering 31- industrial engineering, industrial arts 32- marine engineering 33- mechanical engineering 34- mechanics - design 35- sanitary engineering 36- structural engineering 37- structures 38- transportation 39- urban and regional theory 40- HUMANITIES 41- American literature 42- comparative literature 43- english 44- literary criticism 45- playwriting

COLUMNS	DESCRIPTION
	46- American civilization, American history, American social and intellectual history
	47- history
	48- history of science and technology
	49- modern European history
	50- French
	51- German literature
	52- Latin
	53- modern languages
	54- education
	55- education administration
	56- guidance
	57- philosophy
	58- organ
	59- library science
	60- PHYSICAL SCIENCE
	61- applied physics
	62- biology
	63- chemistry
	64- communications
	65- fluid mechanics
	66- geography
	67- geology
	68- inorganic chemistry
	69- material science
	70- mathematics
	71- metallurgy
	72- meterology
	73- mineralogy
	74- nuclear physics
	75- optics
	76- organic chemistry
	77- physical chemistry
	78- physics
	79- chemistry and physics
	80- SOCIAL SCIENCE
	81- economics
	82- international relations
	83- political science
	84- psychology

COLUMNS	DESCRIPTION
	87- law 88- physical education, athletics, recreation 89- interdisciplinary 97- military science 98- not given 99- "none"
14&15	DATE UNDERGRADUATE DEGREE RECEIVED Code last two digits of year
16	TYPE OF SCHOOL 0- military school 1- state university 2- university other than state supported, other than Catholic 3- technical school 4- liberal arts college, other than Catholic 5- junior college 6- community college 7- Catholic college 8- State teacher's college 9- uncodable
17	REGION OF SCHOOL WHERE UNDERGRADUATE DEGREE RECEIVED 4- NE 5- north central 6- south 7- west 8- non-U.S. 9- uncodable
18,19	SKIP
(20-27) (30-37)	GRADUATE EDUCATION EXPERIENCE
20&21	FIRST GRADUATE DEGREE 00- no graduate degrees (if 00 in Columns 20&21, put 9's in Columns 22-27 and 30-37.) 01- M.A. 02- Ph.D. 03- S.M. 04- Sc.D. 05- M.S. 06- M.Sc.

COLUMNS	DESCRIPTION
	07- M.R.P. 08- A.M. 09- M.B.A. 10- M.S.E.E. 11- M.F.A. 12- M.A.T. 13- M.S.L.S. 14- M.Ed. 15- M.E.S. 16- Juris Doctor 17- EDM 20- degree in progress* 99- unknown
22&23	SUBJECT See codes for Columns 10&11
24&25	DATE DEGREE RECEIVED Code last two digits of year
26	TYPE OF SCHOOL 0- military school 1- state university 2- university other than state supported, other than Catholic 3- technical school 4- liberal arts college, other than Catholic 5- junior college 6- community college 7- Catholic college 8- state teacher's college 9- uncodable
27	REGION OF SCHOOL WHERE FIRST GRADUATE DEGREE RECEIVED 4- NE 5- north central 6- south 7- west 8- non-U.S. 9- uncodable

*If the degree is in progress, code the information for Columns 32-37 for the school from which the degree will be received.

COLUMNS	DESCRIPTION
28&29	SKIP
30&31	SECOND GRADUATE DEGREE 00- no second graduate degree (if 00 in Columns 30&31, put 9's in Columns 32-37.) 01- M.A. 02- Ph.D. 03- S.M. 04- Sc.D. 05- M.S. 06- M.Sc. 07- M.R.P. 08- A.M. 09- M.B.A. 10- M.S.E.E. 11- M.F.A. 12- M.A.T. 13- M.S.L.S. 14- M.Ed. 15- M.E.S. 16- Juris Doctor 17- EDM 99- M.E.S. 20- degree in progress*
32&33	SUBJECT See codes for Columns 10&11
34&35	DATE DEGREE RECEIVED Code last two digits of year
36	TYPE OF SCHOOL 0- military school 1- state university 2- university other than state supported, other than Catholic 3- technical school 4- liberal arts college, other than Catholic 5- junior college 6- community college 7- Catholic college

*If the degree is in progress, code the information for Columns 32-37 for the school from which the degree will be received.

COLUMNS	DESCRIPTION
	8- state teacher's college 9- uncodable
37	REGION OF SCHOOL WHERE SECOND GRADUATE DEGREE RECEIVED 4- NE 5- north central 6- south 7- west 8- non-U.S. 9- uncodable
38&39	SKIP
(40-56)	PROFESSIONAL EXPERIENCES AND OBLIGATIONS
40&41	NUMBER OF YEARS AT BOYNTON TECH Code exact years. Precede one digit numbers with a 0. 99- not listed
42&43	NUMBER OF YEARS AT OTHER POST-SECONDARY INSTITUTIONS Code exact years. Precede one digit numbers with a 0.
44&45	NUMBER OF YEARS AT SECONDARY OR LOWER SCHOOLS Code exact years. Precede one digit numbers with a 0.
46	OTHER INSTITUTIONAL OBLIGATIONS DURING CURRENT ACADEMIC YEAR 1- member of departmental committee 2- member of Boynton Tech committee 3- faculty advisor to a student organization 4- academic advising (not research) 5- research supervision, graduate students 6- research supervision, undergraduate 7- teaching night classes 8- research project, unspecified 9- blank
47	INSTITUTIONAL OBLIGATIONS (second activity) Same codes as Column 46.

COLUMNS	DESCRIPTION
48	INSTITUTIONAL OBLIGATIONS (third activity) Same codes as Column 46.
49	INSTITUTIONAL OBLIGATIONS (fourth activity) Same codes as Column 46.
50	INSTITUTIONAL OBLIGATIONS (fifth activity) Same codes as Column 46.
(51-54)	PUBLICATIONS
51&52	YEAR OF FIRST PUBLICATION LISTED 99- not listed Look at the list of publications in vita and code the year of the earliest publication listed.
53&54	NUMBER OF PUBLICATIONS Count the number of publications listed in the vita and code the number. Precede all one digit numbers with a 0.
(55-58)	CURRENT MEMBERSHIP IN SCHOLARLY ORGANIZATIONS
55	MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS Code the exact number of professional organizations to which the individual belongs. 9 = 9 or more. SEE MASTER LIST OF ORGANIZATIONS
56	MEMBERSHIP IN COMMUNITY AND CHURCH ORGANIZATIONS Code the exact number of community and church organizations to which the individual belongs. 9 = 9 or more. SEE MASTER LIST OF ORGANIZATIONS FOR CODE.
57	MEMBERSHIP IN BOYNTON TECH ORGANIZATIONS Code the exact number of Boynton Tech organizations to which the individual belongs. 9 = 9 or more. SEE MASTER LIST OF ORGANIZATIONS FOR CODE.
58	MEMBERSHIP IN HONORARY ORGANIZATIONS Code the exact number of honorary organizations to which the individual belongs. 9 = 9 or more. SEE MASTER LIST OF ORGANIZATIONS FOR CODE.

COLUMNS	DESCRIPTION
59-76	SKIP
(77-80)	DECK IDENTIFICATION
77	CARD SERIAL NUMBER Code 1 for every card.
78	SOURCE Code 1 for every card. (Indicates that information is from vita.)
79&80	STUDY AND ACTIVITY Code 01 for every card. (Indicates that information is for faculty, summer of 1971.)

Appendix C

Study Measures

DEGREE OF PROFESSIONAL ORIENTATION

Professional orientation is scored by summing values over the following seven items:

1) Publications index: Number of publications reported in vita divided by the number of years elapsed since first publication. The median number of publications was calculated for the 98 respondents in the survey. Index scores were organized such that:

   a) a score of 0 was assigned to those with number of publications less than the median
   b) a score of 1 was assigned to those with a number of publications equal to or greater than the median

2) Membership in Professional Organizations:

   a) a score of 0 was assigned to each respondent who was not a member of 2 or more professional organizations
   b) a score of 1 was assigned to a respondent who was a member of 2 or more professional organizations

3) Inter-regional moves: in regard to career history for each respondent.
   Explanation: Northeast, North Central, South, West, and non-U.S. were considered as separate regions. Each change of region which occurred with a change of position was considered a move. Those with inter-regional moves were assigned a code of 1; those with no moves were assigned a code of 0.

4) Character of Satisfaction: In regard to Q. 16a, "Why was a specified position in the respondent's career history most satisfying and rewarding," a respondent was assigned a score of 1 if he responded in terms of (code 60): Sense of accomplishment; sense of achievement, of getting ahead; sense of responsibility. He was assigned a score of 0, if he responded in terms other than this.

5) Selected Audience: The following questions were examined in developing this score:

   Q. 7 - "...when you think about the things you do professionally, what is it that you regard as most important to you?"
   Q. 21-The respondent was handed a card on which the following activities were listed:
      A. Teaching - undergraduate courses

B. Teaching - graduate courses
C. Consulting with students, including thesis direction
D. Research activity, including supervising of student assistants and consultation and collaboration with other faculty
E. Private non-academic consulting
F. Administrative work, i.e., administrative and committee work within Boynton Tech

He was then asked to "rank these activities from the activity in which you invest the most time down to the activity in which you invest the least, or none."

Q. 22 - "Considering all of the activities listed on Card #1, which of these activities do you regard as most important?"

If the respondent did not respond in terms of research to any of these questions, he was assigned a score of 0. If he responded in terms of research to any one or more of the above questions, he was assigned a score of 1.

6) Self-Characterization: The respondent was assigned a code as to how he classified himself according to the Wilensky typology. (See page 125 of Interview in Appendix A)

1) Professional
2) Careerist
3) Missionary
4) None
9) no answer

(Codes 5, 6, and 7 were various combinations of codes 1 through 3.)
A respondent self-classified as Professional was assigned a score of 1.
A respondent self-classified as anything other than professional was assigned a score of 0.

7) Opportunity to Move: If the respondent answered "no" to q. 43 - "Suppose you were offered an opportunity to take a position which would clearly provide you with a substantial improvement in your professional situation, but this opportunity would require that you move to another part of the country. Would you accept such a position?" - he was asked q. 43a - "Why is that?" Those respondents answering "yes" to 43 or code 5 to q. 43a (temporary, situational: reluctant to leave on part of family) were assigned a score of 1; all others received a score of 0.

Degree of Professional Orientation - is a score ranging from 0-7, and is equal to the sum of the scores on each of the 7 items making up the index. A score of 0 is a low professionalization score and a score of 7 is a high professionalization score.

ORIENTATION TOWARD CHANGE

Evaluation of responses to a series of questions -- code assigned on the basis of agreement by 3 out of 4 coders, coding the questions together.

The series of questions asked of each respondent dealt with changes in higher education today. (Q. 20(1), 20(2), 20(3), 20(4) in the interview format. Each respondent was asked to comment upon the following items:

1) The changing role of higher education
2) the place of engineering, scientific, and technical education in American society
3) the role of the humanities and social sciences in the training of engineers and technicians
4) any other issues which these examples seemed to bring to mind

Each of the 4 questions for each respondent was discussed among 4 coders, and overall responses to these 4 questions were given a code of either

1) strongly innovative
2) Mildly innovative
3) neutral
4) conservative

Explanation:

1) strongly innovative - works from the premise that change is imperative even at the risk of error; respondent has strong sense of rejection of conventional methods and structure
2) mildly innovative - respondent favors innovation but wants to go slow; wants to proceed with change with considerable care
3) neutral - no discernable direction in the answer
4) conservative - doesn't accept the need for change and has to be shown
5) no answer

Each respondent was thus given one score over 4 questions. The final orientation toward change scores ranged from strongly innovative to conservative.

AWARENESS MEASURE

Awareness was evaluated for each respondent from the responses on the following three questions:

Q. 20(1) - First of all, what about the changing role of higher education in the U.S.? (For example, the development of mass education, the question of relevance, etc.)

Q. 20(1a) - In your opinion what can or should be done about this matter? What do you see as the possibilities?

Q. 20(2) - What about the question concerning the place of engineering, scientific, and technical education in American society?

Q. 20(2a) - What do you think can or should be done about the matter?

Q. 20(3) - How do you feel about the role of the humanities and social sciences in the training of engineers and technicians?

Q. 20(3a) - What do you see as the possibilities concerning this issue?

Awareness ranged from superficial to uneven to comprehensive coverage of each of the three issues above. One score was assigned for each issue, and then the sum was taken as the "awareness score" for each respondent.

A score of 1 for each issue means superficial coverage of the issue.
A score of 2 means uneven, not really complete coverage of the issue.
A score of 3 means comprehensive coverage of the issue.
A score of 0 means no answer.

Awareness Index scores ranged from 0 to 9, 0 being low, 9 being high awareness of these 3 issues.

PLAN RECEPTIVITY MEASURE

I. Elements of the Measure

A. Those who oppose the plan

B. Those who favor the plan
but 1) have opposed in the past

or 2) have favored in the past

a) actively

(i) as a member of a group

(ii) individually

b) not actively

C. No answer

II. Construction of Plan Receptivity Measure

The measure was constructed from the responses concerning two questions related to support of the plan -- q. 31 and q. 31a.

Q. 31 - In the past, have you done anything or acted in a way to express support for the plan? Q. 31 was coded as follows:

0- was against plan in past
1- Have supported plan actively
2- Have not actively supported plan
8- Opposed to plan
9- No answer

This information was then recoded as follows:

1- was against plan in past
2- Have not actively supported plan
8- Opposed to plan
9- No answer

Of those who supported the plan actively, in Q. 31, (code 1), reference was made to Q. 31a to see how they supported the plan actively.

Q. 31a - What actions have you taken in the past in support of the Boynton Plan? The responses were coded as follows:

00- Inapplicable
10- Voted for the plan

20-supported in department meetings
30-supported in faculty meetings
40-petitioned president, board of trustees
50-member of organized group to work for plan
60-informal support
70-wrote a position paper
80-codes 10 & 50
81-codes 20 & 50
82-codes 50 & 60
99-No answer

This data was then recoded in terms of active support of the plan as follows:

3- voted for the plan and/or informal support only (Codes 10 and/or 60)
4- took over or additional action in support of the plan (Codes 20, 30, 40, 70, or 81)
5- member of organized group working for the plan (Codes 50, 80, or 82)

Thus, from the recoded responses to questions 31 and 31a above, the following plan receptivity measure was obtained:

1- was against plan in past
2- have not actively supported plan
3- voted for the plan and/or informal support only
4- took other or additional action in support of the plan
5- member of organized group working for the plan
8- opposed to plan
9- no answer

Appendix D

A Brief Summary of the Boynton Plan

The Boynton Plan is a many-faceted approach to education. Perhaps the most important aspect of the plan is the granting to the student the responsibility for developing, with faculty guidance, an individualized academic program which will lead him to his degree. That degree is awarded upon demonstrated *competence* through projects, tutorials, independent study, and a comprehensive evaluation.

COURSEWORK

There are no required courses. The student is free to determine, with the help of his faculty advisor, just what courses he will take, based on his interests, his educational and career aims, and his prior knowledge. This places on the individual student a good deal of responsibility, which is in itself an important part of the educational process. The student's program will be what he makes it -- just as a person's life is what he makes it -- and it will be judged by others accordingly. Where common sense, technical knowledge, or personal maturity may be lacking, the student's faculty advisor will be able to help. But the primary responsibility for the overall quality and direction of the individual student's program rests with that student.

At the same time, the pace of a student's academic progress can also be adjusted to suit his ability level. While a four-year program will be right for most students, some will be able to complete their degree requirements in less time and others will be able to adopt a lighter schedule, in keeping with their special needs, and may take longer to earn their bachelor's degree.

PROJECTS AND INDEPENDENT STUDY

Under the Boynton Plan, each student is required to complete two "independent studies" or tutorial projects, each equivalent to a full-time seven-week term. One of these is in the student's major field of interest; the other normally relates the student's major to social science and humanistic problems. This second project is very important to the success of the Plan, because it helps bring home to the individual the interrelatedness of all areas of knowledge and of action.

Some of these projects are carried out on campus. Others are done off campus, at Internship Centers established at governmental agencies, industrial corporations, and private laboratories. The projects are not routine or make-work. They are directed to the solving of real problems in their real-life settings. For example, quality-control testing of standard production items is not the kind of project work done under the Plan; more typical is the solution or abatement of a pollution problem at a given factory, or the testing of a new or preproduction piece of equipment to see that the design works in practice.

Note that before the student undertakes his major projects, he will have already participated in six to eight other projects and tutorials in various capacities. Each of these is on a smaller-scale, part-time basis (generally one-third of his work in any given term) for him, thus letting him become "acclimatized" to this type of self-reliant, independent study.

By "independent study" under the Plan, we do not mean that a student is abandoned and left to his own devices. Rather, the student works *individually,* under the individual guidance of a faculty member, in the classic tutorial manner.

THE COMPREHENSIVE EVALUATION

Since the goal of the Boynton Plan is to produce people who are professionally competent and able to work in situations as they exist in the "real world," it is important that the student be evaluated in a meaningful way that reflects this goal.

The Comprehensive Evaluation is *not* a three-hour examination on which everything depends, pass or fail. It extends over a reasonably long period, perhaps a week, during which a student is given a problem (or perhaps a set of problems, from which he can choose as he wishes) to investigate. The problem may or may not have a solution; it may have many solutions, in which case the student might have to investigate several and choose among them. There will be complete access to reference material, the library, laboratories, other students and faculty, just as a student will have in later life, whether in applied engineering or basic research, whether in industry or academe. At the end of the assigned period, the student will report back to the evaluating faculty and discuss his work on the problem -- not merely the answers but the methods of attack, approaches which were tried and abandoned, the analysis of the problem. For what is being evaluated is not the student's storehouse of facts and information but his *understanding* of methods, processes, resources, and underlying principles and theories. We are trying to look at knowledge rather than at information or data.

Because each student's program will be different, because it will be patterned after his own particular interests, so it will probably work out that, in many cases, the problems investigated in the comprehensive evaluation will be different for each student.

When a student has successfully passed his comprehensive, he will have been rated in the most meaningful way that we can conceive--the one most closely related to the kind of situation he will face in later life after graduation. A test is a highly artificial situation, bearing no necessary relationship to reality or to on-the-job performance and ability. The comprehensive evaluation represents a typical real

situation, with all the aspects of the world in which the student will be living.

If a student fails to pass the comprehensive, this fact will not be entered on his transcript, and he may retake the comprehensive when it is offered again.

In the student's minor field of study he may be required to complete two units of course work, or he may elect to take a sufficiency examination.

THE INTERSESSION

Every January there is a 3-week-long series of concentrated seminars called the Intersession. At this time there will be some 150 different topics available for study, ranging across all the departments of the college and including a number dealing with hobbies, recreation, and various interdisciplinary areas. Some will be very specialized and may have only a few students enrolled (for example, the state of the art in integrated circuit technology); others may have up to 100 students involved (such as learning a new computer language). Each topic will be studied for one week, so that a normal intersession schedule would involve three separate topics. These could be related or unrelated, according to the participant's wishes.

The Intersession has several values. It brings to the campus outside resource people. It enables students and faculty to study areas that are too specialized to warrant a normal course. And it provides a break from the normal routine of classes and studies.

DEGREE REQUIREMENTS

Under the Boynton Plan, degree requirements are as follows:

The completion of 12 *units** of work.

Acceptable or distinguished completion of a comprehensive evaluation in the major field of study.

Qualification in a minor field of study either by sufficiency examination or by overall evaluation of two units of work in the area. Students majoring in a science or engineering field would normally fulfill this requirement in a humanities or social-science area. Students majoring in a humanities or social-science field will fulfill this requirement in an area of science or engineering.

At least two units of acceptable or distinguished work in an advanced-level activity involving independent study or project-oriented tutorial work. One of these units would have to be in

the student's major field; an activity relating technology to society is recommended for the second.

Students must complete 1/3 unit of physical education (4 terms) during their first two years at the college.

*A *unit* is equivalent to about 50 hours work per week for a 7-week term. Most courses will have a credit value of 1/3 unit per term.

GRADES AND TRANSCRIPTS

Under the Boynton Plan, three different grades are possible: Acceptable (AC), Acceptable with Distinction (AD), or Not Acceptable (NA).

In addition to course grades of AC or AD, the student's transcript will contain a description of his qualifying projects, together with comments by the faculty supervisor and an evaluation.

Finally, a summary of the student's comprehensive evaluation and his performance on it will be included together with the grade AC or AD. Not Acceptable performance on coursework and on the comprehensive will not be entered on the transcript.

If a student wishes to transfer to another school, the Plan system can be converted to a semester-hour, quality-point system for the purpose of establishing credits at the other school.